

CORESO Engineers

North: MÜHLING Philipp **South:** BRIEGERT Robin

Day Ahead report for

01 January 2018

Security Levels:

CWE: For Elia and RTE no constraints detected, but high wind infeed in Germany makes significant amounts of redispatch necessary to release constraint on Amprion/ TennetDE border. Furthermore TennetNL asked to reduce Belgian PST taps to help with internal constraint (taps adapted to 6/6/12/12 for first 15 hours of the day.

CEE: No critical constraints detected.

CSE: No critical constraints detected

Key overall conditions

Outages table

Exchange program forecasts

ELIA expected flows & PSTs tap position

CEE Renewable Power Generation & Forecast

CWE and CSE Renewable Power Forecast (D-1 and D-2)

RTE flows on cross-border lines

N state flows at 10:30 and 19:30

Special topologies at 10:30 and 19:30

North analyses results

Constraints on Elia, RTE (North) and 50HzT 400kV grids and tie-lines

Constraints greater than 100% on NL + Amprion 400kV grids and greater than 120% on DE, CZ, PL and SK 400kV grids

Constraints on ELIA 220/150kV grid at 10:30

50HzT DC loopflows sensitivity

South analyses results

N state flows Off-Peak & Peak

Special topologies

Sensitivity coefficients for the Pentalateral instruction

Constraints on APG, Eles, RTE (South), Swissgrid and Terna 400kV grids and tie-lines

Final PSTs settings

Conclusion



Key overall conditions

Load & Generatio	n margin	forecast		Main generating ur	nits conne	ted to the gri	id in DA	CF
-				5 1		1000	1	4000
"	.IA			Doel		450	2	1900
Dealthand [NANA/]	7600	18:00	Elia	Tibonos	Pmax	1000	2	2900
Peak load [MW]	7600	18:00	Elld	Tihange	(MW)	450	2	2900
Generation Margin	Suffi	cient		Coo		230	3	1170
Generation Margin	Sulli	cient		COO		160	3	1170
				Rostock		530	1	530
				Janschwalde		500	5	2500
			50HzT	Boxberg	Pmax	500	2	1900
			30021	ьохрегд	(MW)	900	1	1900
				Schw. Pumpe		800	2	1600
				Lippendorf		920	2	1840
R	TE			Gravelines		900	4	3600
Peak load [MW]	58700	11:00		Chooz		1500	1	1500
Generation Margin	Suffi	cient		Cattenom		1300	3	3900
				Fessenheim		900	1	900
NATIONAL G	RID (UK ti	me)		Penly	Pmax	1300	2	2600
Peak load [MW]	39 700	17:25	RTE	Paluel	(MW)	1300	2	2600
Generation Margin	Suffi	cient		Nogent s/ Seine	,	1300	2	2600
				Bugey		900	4	3600
TER	RNA			St Alban		1300	2	2600
Peak load [MW]	k load [MW] 29138 19:30	19:30		Cruas		900	3	2700
Generation Margin	Suffi	cient		Tricastin		900	2	1800

Generation margin legend:

Green: Sufficient margin available. No risk for need of inter-TSO solicitation due to margin issues. Orange: Tight margin available. Low risk for need of inter-TSO solicitation due to margin issues. Red: Insufficient margin available. High risk for need of inter-TSO solicitation due to margin issues.

Comments:

RTE: Production at Gravelines 3, Paluel 4 and Chooz 2 reduced to 0MW, but further reduction is needed.

ELIA: Doel 4 will reduce output to 600MW during the period 02:00-12:00

WE / CI

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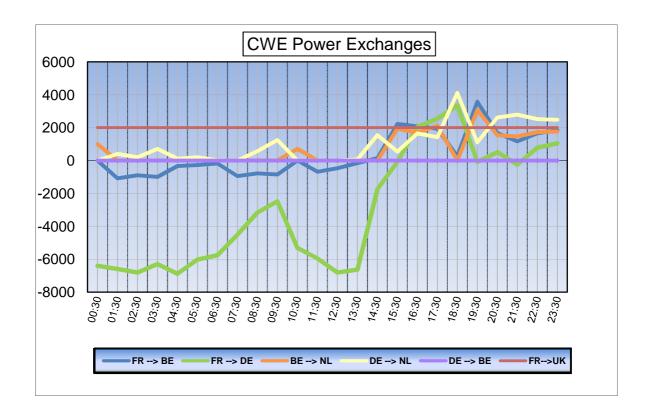


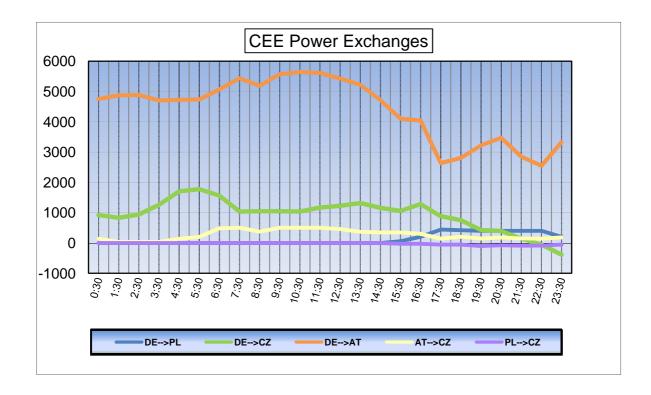
Outages table

		OUTAGES			
Owner	Type of element	Line name	start	end	Comments
50HzT	Fossil.Gen	BOXBERG _ UNIT R 400 kV	24/12/2017	04/01/2018	630 MW
50HzT	Fossil.Gen	BOXBERG _ Unit N 400 kV	24/12/2017	02/01/2018	290 MW (reduced)
50HzT	Fossil.Gen	JANSCHWALDE _ Unit D 400 kV	23/12/2017	01/01/2018	500 MW
50HzT	Fossil.Gen	Moorburg _ Unit B 400 kV	22/12/2017	02/01/2018	800MW
50HzT	Hydro.Gen	MARKERSBACH _ Unit D 400 kV	28/09/2017	27/04/2018	160 MW
50HzT	Line	WOLMIRSTEDT _ WUSTERMARK 494 400 kV	24/12/2017	07/01/2018	
50HzT / PSE	Line	KRAJNIK_VIERRADEN 507 225 kV	22/06/2016	31/05/2018	Long term outage
50HzT / PSE	Line	KRAJNIK_VIERRADEN 508 225 kV	22/06/2017	31/05/2018	Long term outage
APG	Line	TAUERN _ PST 220 kV	14/12/2017	15/01/2018	
CEPS	Generation	MELNIK _ UNIT 400 kV	04/11/2017	31/01/2018	
ELIA	Line	GEZELLE _ STEVIN 111 400 kV	19/09/2017	26/01/2018	
ELIA	Line	GEZELLE _ STEVIN 112 400 kV	19/09/2017	26/01/2018	
ELIA	Nuc.Gen	DOEL _ Unit 3 (1000MW) 400 kV	23/09/2017	16/04/2018	Forced outage
PSE	Fossil.Gen	TUROW _ Unit 2 225 kV	01/03/2017	12/01/2018	
RTE	Line	BARNABOS _ TERRIER 1 400 kV	18/12/2017	05/01/2018	
RTE	Nuc.Gen	CRUAS _ Unit 2 (900MW) 400 kV	02/12/2017	30/03/2018	
RTE	Nuc.Gen	FESSENHEIM _ Unit 2 (900MW) 400 kV	01/01/2017	15/03/2018	
RTE	Nuc.Gen	PALUEL _ Unit 2 (1300MW) 400 kV	01/08/2015	15/04/2018	
S.GRID	Line	LIMMERN_TIERFEHD 1 400 kV	28/01/2017	31/07/2018	
S.GRID	Nuc.Gen	BEZNAU _ BEZNAU G11 220 kV	13/03/2017	28/02/2018	182 MW
S.GRID	Nuc.Gen	BEZNAU _ BEZNAU G12 220 kV	13/03/2015	28/02/2018	182 MW

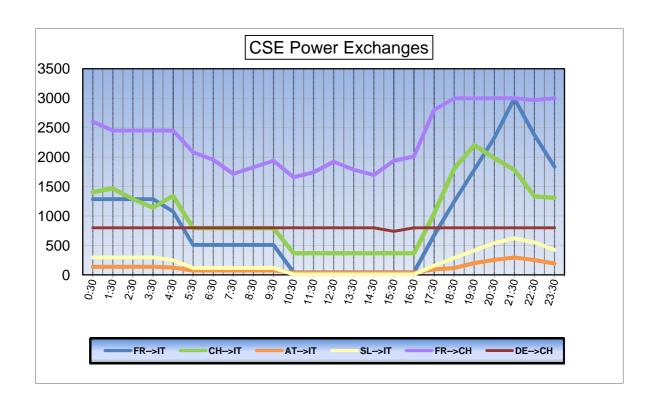


Exchange program forecasts











ELIA expected flows & PSTs tap position

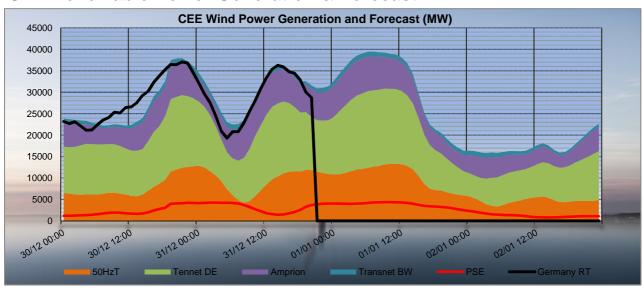
		Node 1	Node 2	Ι												
		Node 1	Node 2	Order	00:30	03:30	06:30	07:30	10:30	11:30	12:30	13:30	16:30	17:30	19:30	23:30
BE	FR	ACHENE	LONNY	380.19	760	712	707	777	750	839	848	789	-158	-115	-237	-207
BE	FR	AUBANGE	MONT ST MARTIN	220.51	110	117	84	138	109	133	132	109	-155	-118	-154	-149
BE	FR	AUBANGE	MOULAINE	220.51	112	115	81	135	111	131	128	108	-143	-107	-140	-135
BE	FR	AVELGEM	AVELIN	380.80	848	987	853	838	685	813	834	690	-806	-997	-1019	-785
BE	FR	AVELGEM	MASTAING	380.79	201	301	281	277	174	233	228	154	-539	-613	-590	-487
BE	FR	MONCEAU	CHOOZ	220.48	-42	-8	1	15	-24	-14	-20	-38	-218	-228	-228	-210
BE	NL	VAN EYCK 1	MAASBRACHT	380.27	-576	-564	-654	-551	-576	-627	-682	-672	-91	0	-77	-49
BE	NL	VAN EYCK 2	MAASBRACHT	380.28	-143	-333	-552	-302	-182	-294	-378	-324	754	1048	777	788
BE	NL	ZANDVLIET	BORSSELE	380.29	-214	-245	-313	-228	-178	-255	-304	-309	182	268	270	220
BE	NL	ZANDVLIET	GEERTRUIDENBERG	380.30	74	56	-131	31	9	-92	-140	-119	664	809	787	829
BE	LU	BELVAL	SCHIFFLANGE	220.511	-131	-144	-180	-181	-162	-186	-185	-226	122	224	108	107
BE	FR	TOTA	AL		1989	2224	2007	2180	1805	2135	2150	1812	-2019	-2178	-2368	-1973
BE	NL	TOTA	AL		-859	-1086	-1650	-1050	-927	-1268	-1504	-1424	1509	2125	1757	1788
BE	LU	TOTAL			-131	-144	-180	-181	-162	-186	-185	-226	122	224	108	107
		TOTAL BELGIAN IMPOR	T/EXPORT		999	994	177	949	716	681	461	162	-388	171	-503	-78

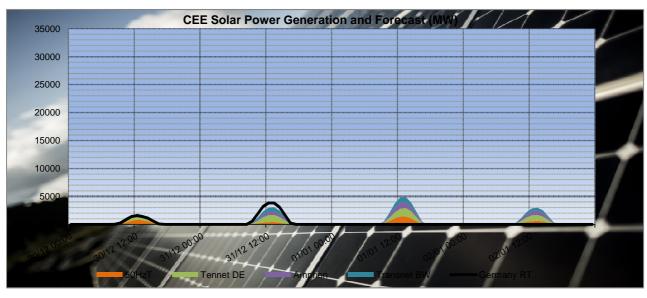
	Zandvliet 1	6	6	6	6	6	6	6	6	12	12	12	12
	Zandvliet 2	6	6	6	6	6	6	6	6	12	12	12	12
PST taps in DACF	Van Eyck 1	12	12	12	12	12	12	12	12	15	15	15	15
	Van Eyck 2	12	12	12	12	12	12	12	12	15	15	15	15
	Average	9	9	9	9	9	9	9	9	14	14	14	14
CREOS PST in DACF	Schifflange	15	15	15	17	17	17	17	17	17	17	17	17

						Pro	oosa	l fo	r rea	al tir	ne a	fter	D-1	stu	dies	;									
Time	stamps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
PSTs																									
Zandvliet PST 1	[1;35]	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	12	12	12	12	12	12	12	12	12
Zandvliet PST 2	[1;35]	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	12	12	12	12	12	12	12	12	12
Van Eyck PST 1	[1;35]	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	15	15	15	15	15	15	15	15	15
Van Eyck PST 2	[1;35]	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	15	15	15	15	15	15	15	15	15
Schifflange PST 1	[1;35]	13	13	13	13	13	13	13	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17



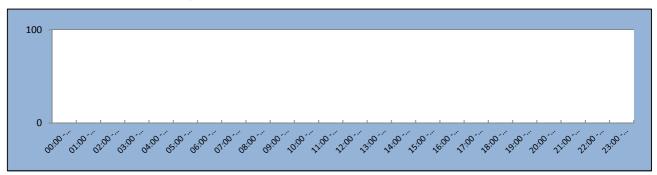
CEE Renewable Power Generation & Forecast





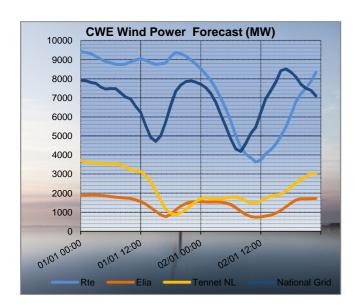
The charts above show the wind and solar generation forecasts for the TSOs in CEE (most significant) from D+1 until D-2 and the realised generation in Germany in real time. Source: Meteologica and 50HzT (RT)

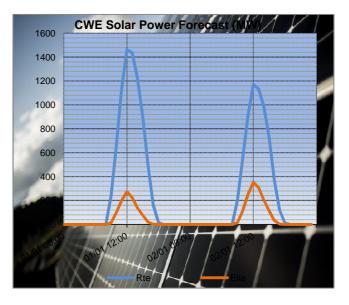
50HzT counter trading

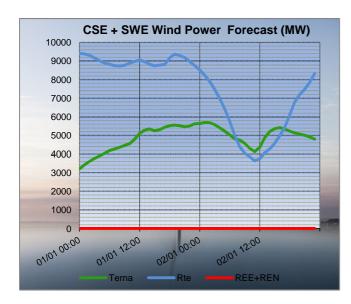


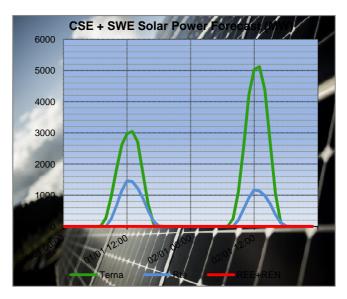


CWE and CSE Renewable Power Forecast (D-1 and D-2)









The charts above show the latest wind and solar generation forecasts for D-1 and D-2 for all the European TSOs in CWE, CSE and SWE with a significant installed capacity. Source: Meteologica



RTE flows on cross-border lines

With last provided tap position on Belgian PSTs:

					03:30			07:30		I	10:30			12:30	
	Γ	Node 1	Node 2	DACF	Merge	Delta	DACF	Merge	Delta	DACF	Merge	Delta	DACF	Merge	Delta
FR	BE	LONNY	ACHENE	-123	-364	-241	-37	-314	-277	-3	-256	-253	-76	-414	-338
FR	BE	MONT ST MARTIN	AUBANGE	6	-3	-9	-1	-6	-5	-98	-23	75	-88	-83	5
FR	BE	MOULAINE	AUBANGE	-1	-9	-8	-5	-10	-5	-98	-26	72	-85	-81	4
FR	BE	AVELIN	AVELGEM	126	-101	-227	98	-88	-186	358	262	-96	240	115	-125
FR	BE	MASTAING	AVELGEM	146	-1	-147	128	12	-116	262	204	-58	216	148	-68
FR	BE	CHOOZ	MONCEAU	76	12	-64	96	23	-73	136	83	-53	122	73	-49
FR	DE	MUHLBACH	EICHSTETTEN	-110	169	279	-217	96	313	190	325	135	35	268	233
FR	DE	VOGELGRUN	EICHSTETTEN	-42	25	67	-42	20	62	45	71	26	16	52	36
FR	DE	ST AVOLD	ENSDORF	0	0	0	0	0	0	0	0	0	0	0	0
FR	DE	VIGY	ENSDORF 1	-166	6	172	-224	-127	97	268	204	-64	200	87	-113
FR	DE	VIGY	ENSDORF 2	-152	21	173	-207	-124	83	298	225	-73	229	105	-124
	<i>D</i> .	V101	ENSDOM 2	132	17:30	173	207	19:30	03	230	23:30	,,		103	121
	Г	Node 1	Node 2	DACF	Merge	Delta	DACF	Merge	Delta	DACF	Merge	Delta	ŀ		
FR	BE	LONNY	ACHENE	19	-341	-360	-155	-438	- 283	-166	-489	- 323			
FR	BE	MONT ST MARTIN	AUBANGE	-8	-52	-44	-87	-56	31	-89	-73	16			
FR	BE	MOULAINE	AUBANGE	-14	-56	-42	-89	-60	29	-90	-75	15			
FR	BE	AVELIN	AVELGEM	331	259	-72	139	-56	-195	69	-277	-346			
FR	BE	MASTAING		280	245	-72	217	97	-195	193	-277	-213			
	BE	CHOOZ	AVELGEM MONCEAU	280 149	113	-35	161	89	-120	193	-20 47	-213 -78			
FR		MUHLBACH									54				
FR	DE		EICHSTETTEN	106	356	250	-160	113	273	-305		359			
FR	DE	VOGELGRUN	EICHSTETTEN	52	107	55	10	61	51	-20	26	46			
FR	DE	ST AVOLD	ENSDORF	0	0	0	0	0	0	0	0	0			
FR	DE	VIGY	ENSDORF 1	247	166	-81	-28	-88	-60	-249	-239	10			
FR	DE	VIGY	ENSDORF 2	274	186	-88	-7	-76	-69	-235	-238	-3			
					03:30			07:30		1	10:30			12:30	1
	Г	Node 1	Nodo 2	DACF		Dolto	DACF		Dolto	DACF		Dolto	DACF		Dolto
ED	CII	SIERENTZ	Node 2		Merge 213	Delta	105	Merge 153	Delta 48		Merge	Delta		Merge	Delta 52
FR	CH		ASPHARD	226		-13				238	251	13	176	228	
FR	CH	MAMBELIN	BASSECOURT	-282	-203	79	-329	-242	87	-185	-117	68	-220	-137	83
	-	CLEDENTZ	DACCECOURT	445	447	1	100	422	17	240	204	CE	204	277	72
FR	CH	SIERENTZ	BASSECOURT	445	447	2	406	423	17	319	384	65	304	377	73
FR	СН	BOIS TOLLOT	ROMANEL	20	-45	-65	-29	-62	-33	76	74	-2	70	86	16
FR FR	CH CH	BOIS TOLLOT SIERENTZ	ROMANEL LAUFENBURG	20 203	-45 313	-65 110	-29 160	-62 249	-33 89	76 192	74 282	-2 90	70 117	86 253	16 136
FR FR FR	CH CH	BOIS TOLLOT SIERENTZ CORNIER	ROMANEL LAUFENBURG RIDDES	20 203 -89	-45 313 -52	-65 110 37	-29 160 -99	-62 249 -45	-33 89 54	76 192 -52	74 282 7	-2 90 59	70 117 -52	86 253 10	16 136 62
FR FR FR	CH CH CH	BOIS TOLLOT SIERENTZ CORNIER CORNIER	ROMANEL LAUFENBURG RIDDES ST TRIPHON	20 203 -89 -82	-45 313 -52 -57	-65 110 37 25	-29 160 -99 -96	-62 249 -45 -46	-33 89 54 50	76 192 -52 -48	74 282 7 12	-2 90 59 60	70 117 -52 -39	86 253 10 19	16 136 62 58
FR FR FR FR	CH CH CH CH	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES	20 203 -89 -82 -196	-45 313 -52 -57 -169	-65 110 37 25 27	-29 160 -99 -96 -211	-62 249 -45 -46 -144	-33 89 54 50 67	76 192 -52 -48 -159	74 282 7 12 -85	-2 90 59 60 74	70 117 -52 -39 -151	86 253 10 19 -77	16 136 62 58 74
FR FR FR FR FR	CH CH CH CH CH	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS	20 203 -89 -82 -196 158	-45 313 -52 -57 -169 178	-65 110 37 25 27 20	-29 160 -99 -96 -211 134	-62 249 -45 -46 -144 171	-33 89 54 50 67 37	76 192 -52 -48 -159 165	74 282 7 12 -85 217	-2 90 59 60 74 52	70 117 -52 -39 -151 185	86 253 10 19 -77 227	16 136 62 58 74 42
FR FR FR FR FR FR	CH CH CH CH CH CH	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS	20 203 -89 -82 -196 158 132	-45 313 -52 -57 -169 178 128	-65 110 37 25 27 20 -4	-29 160 -99 -96 -211 134 120	-62 249 -45 -46 -144 171 129	-33 89 54 50 67 37	76 192 -52 -48 -159 165 156	74 282 7 12 -85 217 181	-2 90 59 60 74 52 25	70 117 -52 -39 -151 185 170	86 253 10 19 -77 227 194	16 136 62 58 74 42 24
FR FR FR FR FR FR FR	CH CH CH CH CH CH CH CH	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS	20 203 -89 -82 -196 158 132	-45 313 -52 -57 -169 178 128	-65 110 37 25 27 20 -4 -4	-29 160 -99 -96 -211 134 120	-62 249 -45 -46 -144 171 129	-33 89 54 50 67 37 9	76 192 -52 -48 -159 165 156	74 282 7 12 -85 217 181 181	-2 90 59 60 74 52 25 24	70 117 -52 -39 -151 185 170	86 253 10 19 -77 227 194 194	16 136 62 58 74 42 24 23
FR FR FR FR FR FR FR FR FR	CH CH CH CH CH CH CH TH CH TH CH TH	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE	20 203 -89 -82 -196 158 132 132 504	-45 313 -52 -57 -169 178 128 128 459	-65 110 37 25 27 20 -4 -4 -45	-29 160 -99 -96 -211 134 120 120	-62 249 -45 -46 -144 171 129 129 450	-33 89 54 50 67 37 9	76 192 -52 -48 -159 165 156 157	74 282 7 12 -85 217 181 181 628	-2 90 59 60 74 52 25 24 -154	70 117 -52 -39 -151 185 170 171 756	86 253 10 19 -77 227 194 194 634	16 136 62 58 74 42 24 23 -122
FR FR FR FR FR FR FR	CH CH CH CH CH CH CH CH	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE ALBERTVILLE	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE	20 203 -89 -82 -196 158 132 132 504 504	-45 313 -52 -57 -169 178 128 128 459 395	-65 110 37 25 27 20 -4 -4 -45 -109	-29 160 -99 -96 -211 134 120 120 565	-62 249 -45 -46 -144 171 129 129 450 385	-33 89 54 50 67 37 9 9 -115	76 192 -52 -48 -159 165 156 157 782	74 282 7 12 -85 217 181 181 628	-2 90 59 60 74 52 25 24 -154	70 117 -52 -39 -151 185 170 171 756 756	86 253 10 19 -77 227 194 194 634 588	16 136 62 58 74 42 24 23 -122 -168
FR FR FR FR FR FR FR FR FR	CH CH CH CH CH CH CH TH CH TH CH TH	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE	20 203 -89 -82 -196 158 132 132 504	-45 313 -52 -57 -169 178 128 128 459	-65 110 37 25 27 20 -4 -4 -45 -109 8	-29 160 -99 -96 -211 134 120 120	-62 249 -45 -46 -144 171 129 129 450	-33 89 54 50 67 37 9 9 -115 -180 169	76 192 -52 -48 -159 165 156 157	74 282 7 12 -85 217 181 181 628	-2 90 59 60 74 52 25 24 -154 -185 378	70 117 -52 -39 -151 185 170 171 756	86 253 10 19 -77 227 194 194 634	16 136 62 58 74 42 24 23 -122 -168 383
FR FR FR FR FR FR FR FR FR	CH C	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE ALBERTVILLE	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE	20 203 -89 -82 -196 158 132 132 504 504	-45 313 -52 -57 -169 178 128 128 459 395 264 144	-65 110 37 25 27 20 -4 -4 -45 -109	-29 160 -99 -96 -211 134 120 120 565	-62 249 -45 -46 -144 171 129 450 385 320 169	-33 89 54 50 67 37 9 9 -115	76 192 -52 -48 -159 165 156 157 782	74 282 7 12 -85 217 181 181 628 597 531 475	-2 90 59 60 74 52 25 24 -154	70 117 -52 -39 -151 185 170 171 756 756	86 253 10 19 -77 227 194 194 634 588	16 136 62 58 74 42 24 23 -122 -168
FR FR FR FR FR FR FR FR FR FR FR	CH CH CH CH CH CH CH IT IT	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE ALBERTVILLE MENTON VILLARODIN	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE CAMPOROSSO VENAUS	20 203 -89 -82 -196 158 132 132 504 504 256 11	-45 313 -52 -57 -169 178 128 128 459 395 264 144 17:30	-65 110 37 25 27 20 -4 -4 -45 -109 8 133	-29 160 -99 -96 -211 134 120 120 565 565 151	-62 249 -45 -46 -144 171 129 129 450 385 320 169 19:30	-33 89 54 50 67 37 9 -115 -180 169 56	76 192 -52 -48 -159 165 156 157 782 782 153 468	74 282 7 12 -85 217 181 628 597 531 475 23:30	-2 90 59 60 74 52 25 24 -154 -185 378	70 117 -52 -39 -151 185 170 171 756 756	86 253 10 19 -77 227 194 194 634 588 542	16 136 62 58 74 42 24 23 -122 -168 383
FR FR FR FR FR FR FR FR FR FR FR	CH CH CH CH CH CH IT IT IT IT	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE MENTON VILLARODIN NODE 1	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE CAMPOROSSO VENAUS	20 203 -89 -82 -196 158 132 132 504 504 256 11	-45 313 -52 -57 -169 178 128 128 459 395 264 144 17:30 Merge	-65 110 37 25 27 20 -4 -4 -45 -109 8 133	-29 160 -99 -96 -211 134 120 120 565 565 151 113	-62 249 -45 -46 -144 171 129 129 129 385 320 169 19:30 Merge	-33 89 54 50 67 37 9 -115 -180 169 56	76 192 -52 -48 -159 165 156 157 782 782 153 468	74 282 7 12 -85 217 181 181 628 597 531 475 23:30 Merge	-2 90 59 60 74 52 25 24 -154 -185 378 7	70 117 -52 -39 -151 185 170 171 756 756	86 253 10 19 -77 227 194 194 634 588 542	16 136 62 58 74 42 24 23 -122 -168 383
FR FR FR FR FR FR FR FR FR FR FR	CH CH CH CH CH CH CH IT IT	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE ALBERTVILLE MENTON VILLARODIN	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE CAMPOROSSO VENAUS	20 203 -89 -82 -196 158 132 132 504 504 256 11	-45 313 -52 -57 -169 178 128 128 459 395 264 144 17:30	-65 110 37 25 27 20 -4 -4 -45 -109 8 133	-29 160 -99 -96 -211 134 120 120 565 565 151	-62 249 -45 -46 -144 171 129 129 450 385 320 169 19:30	-33 89 54 50 67 37 9 -115 -180 169 56	76 192 -52 -48 -159 165 156 157 782 782 153 468	74 282 7 12 -85 217 181 628 597 531 475 23:30	-2 90 59 60 74 52 25 24 -154 -185 378	70 117 -52 -39 -151 185 170 171 756 756	86 253 10 19 -77 227 194 194 634 588 542	16 136 62 58 74 42 24 23 -122 -168 383
FR FR FR FR FR FR FR FR FR FR FR FR FR	CH CH CH CH CH CH IT IT IT IT	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE ALBERTVILLE MENTON VILLARODIN NODE 1 SIERENTZ MAMBELIN	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE CAMPOROSSO VENAUS Node 2 ASPHARD BASSECOURT	20 203 -89 -82 -196 158 132 132 504 504 256 11 DACF 167 -148	-45 313 -52 -57 -169 178 128 128 459 395 264 17:30 Merge 269 -43	-65 110 37 25 27 20 -4 -4 -45 -109 8 133 Delta 102	-29 160 -99 -96 -211 134 120 120 565 565 151 113 DACF 7	-62 249 -45 -46 -144 171 129 129 129 385 320 169 19:30 Merge	-33 89 54 50 67 37 9 -115 -180 169 56	76 192 -52 -48 -159 165 156 157 782 782 153 468 DACF 20 -282	74 282 7 12 -85 217 181 181 628 597 531 475 23:30 Merge	-2 90 59 60 74 52 25 24 -154 -185 378 7	70 117 -52 -39 -151 185 170 171 756 756	86 253 10 19 -77 227 194 194 634 588 542	16 136 62 58 74 42 24 23 -122 -168 383
FR FR FR FR FR FR FR FR FR FR FR FR	CH CH CH CH CH CH TH TH TH TH TH TH TH CH	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE ALBERTVILLE MENTON VILLARODIN NODE 1 SIERENTZ MAMBELIN SIERENTZ	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE CAMPOROSSO VENAUS Node 2 ASPHARD BASSECOURT BASSECOURT	20 203 -89 -82 -196 158 132 132 504 504 256 11 DACF 167 -148 265	-45 313 -52 -57 -169 178 128 128 459 395 264 144 17:30 Merge	-65 110 37 25 27 20 -4 -4 -45 -109 8 133 Delta 102 105 77	-29 160 -99 -96 -211 134 120 120 565 565 151 113 DACF 7 -235 295	-62 249 -45 -46 -144 171 129 129 450 385 320 169 19:30 Merge 168 -126 336	-33 89 54 50 67 37 9 -115 -180 169 56 Delta 161 109 41	76 192 -52 -48 -159 165 156 157 782 782 153 468 DACF 20 -282 386	74 282 7 12 -85 217 181 181 628 597 531 475 23:30 Merge 144	-2 90 59 60 74 52 25 24 -154 -185 7 Delta 124 105	70 117 -52 -39 -151 185 170 171 756 756	86 253 10 19 -77 227 194 194 634 588 542	16 136 62 58 74 42 24 23 -122 -168 383
FR FR FR FR FR FR FR FR FR FR FR FR FR	CH CH CH CH IT IT IT IT CH CH CH	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE ALBERTVILLE MENTON VILLARODIN NODE 1 SIERENTZ MAMBELIN	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE CAMPOROSSO VENAUS Node 2 ASPHARD BASSECOURT BASSECOURT ROMANEL	20 203 -89 -82 -196 158 132 132 504 504 256 11 DACF 167 -148	-45 313 -52 -57 -169 178 128 128 459 395 264 17:30 Merge 269 -43	-65 110 37 25 27 20 -4 -4 -45 -109 8 133 Delta 102	-29 160 -99 -96 -211 134 120 120 565 565 151 113 DACF 7	-62 249 -45 -46 -144 171 129 129 450 385 320 169 19:30 Merge 168 -126	-33 89 54 50 67 37 9 -115 -180 169 56	76 192 -52 -48 -159 165 156 157 782 782 153 468 DACF 20 -282	74 282 7 12 -85 217 181 181 628 597 531 475 23:30 Merge 144 -177	-2 90 59 60 74 52 25 24 -154 -185 378 7	70 117 -52 -39 -151 185 170 171 756 756	86 253 10 19 -77 227 194 194 634 588 542	16 136 62 58 74 42 24 23 -122 -168 383
FR FR FR FR FR FR FR FR FR FR FR FR	CH C	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE ALBERTVILLE MENTON VILLARODIN NODE 1 SIERENTZ MAMBELIN SIERENTZ	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE CAMPOROSSO VENAUS Node 2 ASPHARD BASSECOURT BASSECOURT ROMANEL LAUFENBURG	20 203 -89 -82 -196 158 132 132 504 504 256 11 DACF 167 -148 265	-45 313 -52 -57 -169 178 128 128 459 395 264 144 17:30 Merge 269 -43 342	-65 110 37 25 27 20 -4 -4 -45 -109 8 133 Delta 102 105 77	-29 160 -99 -96 -211 134 120 565 565 151 113 DACF 7 -235 295 57 45	-62 249 -45 -46 -144 171 129 129 450 385 320 169 19:30 Merge 168 -126 336	-33 89 54 50 67 37 9 -115 -180 169 56 Delta 161 109 41	76 192 -52 -48 -159 165 156 157 782 782 153 468 DACF 20 -282 386	74 282 7 12 -85 217 181 181 628 597 531 475 23:30 Merge 144 -177 400	-2 90 59 60 74 52 25 24 -154 -185 7 Delta 124 105	70 117 -52 -39 -151 185 170 171 756 756	86 253 10 19 -77 227 194 194 634 588 542	16 136 62 58 74 42 24 23 -122 -168 383
FR FR FR FR FR FR FR FR FR FR FR FR FR	CH C	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE ALBERTVILLE MENTON VILLARODIN NODE 1 SIERENTZ MAMBELIN SIERENTZ BOIS TOLLOT	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE CAMPOROSSO VENAUS Node 2 ASPHARD BASSECOURT BASSECOURT ROMANEL	20 203 -89 -82 -196 158 132 504 504 256 11 DACF 167 -148 265 104	-45 313 -52 -57 -169 178 128 128 459 395 264 144 17:30 Merge 269 -43 342 103	-65 110 37 25 27 20 -4 -4 -45 -109 8 133 Delta 102 105 77	-29 160 -99 -96 -211 134 120 120 565 565 151 113 DACF 7 -235 295 57	-62 249 -45 -46 -144 171 129 129 450 385 320 169 19:30 Merge 168 -126 336 48	-33 89 54 50 67 37 9 -115 -180 169 56 Delta 161 109 41	76 192 -52 -48 -159 165 156 157 782 782 153 468 DACF 20 -282 386 11	74 282 7 12 -85 217 181 181 628 597 531 475 23:30 Merge 144 -177 400 -10	-2 90 59 60 74 52 25 24 -154 -185 378 7 Delta 124 105 14	70 117 -52 -39 -151 185 170 171 756 756	86 253 10 19 -77 227 194 194 634 588 542	16 136 62 58 74 42 24 23 -122 -168 383
FR FR FR FR FR FR FR FR FR FR FR FR FR	CH C	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE MENTON VILLARODIN NODE 1 SIERENTZ MAMBELIN SIERENTZ BOIS TOLLOT	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE CAMPOROSSO VENAUS Node 2 ASPHARD BASSECOURT BASSECOURT ROMANEL LAUFENBURG	20 203 -89 -82 -196 158 132 504 504 256 11 DACF 167 -148 265 104 133	-45 313 -52 -57 -169 178 128 128 459 395 264 17:30 Merge 269 -43 342 103 236	-65 110 37 25 27 20 -4 -4 -45 -109 8 133 Delta 102 105 77 -1	-29 160 -99 -96 -211 134 120 565 565 151 113 DACF 7 -235 295 57 45	-62 249 -45 -46 -144 171 129 129 450 385 320 169 19:30 168 -126 336 48 175	-33 89 54 50 67 37 9 -115 -180 169 56 Delta 161 109 41 -9	76 192 -52 -48 -159 165 156 157 782 782 153 468 DACF 20 -282 386 11 30	74 282 7 12 -85 217 181 181 628 597 531 475 23:30 Merge 144 -177 400 -10 227	-2 90 59 60 74 52 25 24 -154 -185 378 7 Delta 124 105 14 -21 197	70 117 -52 -39 -151 185 170 171 756 756	86 253 10 19 -77 227 194 194 634 588 542	16 136 62 58 74 42 24 23 -122 -168 383
FR FR FR FR FR FR FR FR FR FR FR FR FR F	CH C	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE ALBERTVILLE MENTON VILLARODIN NODE 1 SIERENTZ MAMBELIN SIERENTZ BOIS TOLLOT SIERENTZ CORNIER	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE CAMPOROSSO VENAUS Node 2 ASPHARD BASSECOURT BASSECOURT ROMANEL LAUFENBURG RIDDES	20 203 -89 -82 -196 158 132 504 504 256 11 DACF 167 -148 265 104 133 -32	-45 313 -52 -57 -169 178 128 128 459 395 264 144 17:30 Merge 269 -43 342 103 236 34	-65 110 37 25 27 20 -4 -4 -45 -109 8 133 Delta 102 105 77 -1 103 66	-29 160 -99 -96 -211 134 120 565 565 151 113 DACF 7 -235 295 57 45 -53	-62 249 -45 -46 -144 171 129 129 450 385 320 169 19:30 Merge 168 -126 336 48 175 8	-33 89 54 50 67 37 9 -115 -180 169 56 Delta 161 109 41 -9 130 61	76 192 -52 -48 -159 165 156 157 782 782 153 468 DACF 20 -282 386 11 30 -90	74 282 7 12 -85 217 181 181 628 597 531 475 23:30 Merge 144 -177 400 -10 227 -41	-2 90 59 60 74 52 25 24 -154 -185 378 7 Delta 124 105 14 -21 197 49	70 117 -52 -39 -151 185 170 171 756 756	86 253 10 19 -77 227 194 194 634 588 542	16 136 62 58 74 42 24 23 -122 -168 383
FR FR FR FR FR FR FR FR FR FR FR FR FR F	CH C	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE ALBERTVILLE MENTON VILLARODIN NODE 1 SIERENTZ MAMBELIN SIERENTZ BOIS TOLLOT SIERENTZ CORNIER CORNIER	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE CAMPOROSSO VENAUS Node 2 ASPHARD BASSECOURT BASSECOURT ROMANEL LAUFENBURG RIDDES ST TRIPHON	20 203 -89 -82 -196 158 132 504 504 256 11 DACF 167 -148 265 104 133 -32	-45 313 -52 -57 -169 178 128 128 459 395 264 144 17:30 Merge 269 -43 342 103 236 34 35	-65 110 37 25 27 20 -4 -4 -45 -109 8 133 Delta 102 105 77 -1 103 66	-29 160 -99 -96 -211 134 120 120 565 565 151 113 DACF 7 -235 295 57 45 -53 -45	-62 249 -45 -46 -144 171 129 450 385 320 169 19:30 Merge 168 -126 336 48 175 8	-33 89 54 50 67 37 9 9 -115 -180 169 56 Delta 161 109 41 -9 130 61 56	76 192 -52 -48 -159 165 156 157 782 782 153 468 DACF 20 -282 386 11 30 -90 -70	74 282 7 12 -85 217 181 181 628 597 531 475 23:30 Merge 144 -177 400 -10 227 -41 -39	-2 90 59 60 74 52 25 24 -154 -185 7 Delta 124 105 14 -21 197 49	70 117 -52 -39 -151 185 170 171 756 756	86 253 10 19 -77 227 194 194 634 588 542	16 136 62 58 74 42 24 23 -122 -168 383
FR FR FR FR FR FR FR FR FR FR FR FR FR F	CH C	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE ALBERTVILLE MENTON VILLARODIN NODE 1 SIERENTZ MAMBELIN SIERENTZ BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE CAMPOROSSO VENAUS Node 2 ASPHARD BASSECOURT BASSECOURT ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES	20 203 -89 -82 -196 158 132 132 504 504 256 11 DACF -148 265 104 133 -32 -15 -123	-45 313 -52 -57 -169 178 128 128 459 395 264 144 17:30 Merge 269 -43 342 103 236 34 35 -49	-65 110 37 25 27 20 -4 -4 -45 -109 8 133 Delta 102 105 77 -1 103 66 50 74	-29 160 -99 -96 -211 134 120 120 565 565 151 113 DACF 7 -235 295 57 45 -53 -45	-62 249 -45 -46 -144 171 129 129 450 385 320 169 19:30 Merge 168 -126 336 48 175 8 11 -78	-33 89 54 50 67 37 9 9 -115 -180 169 56 Delta 161 109 41 -9 130 61 56	76 192 -52 -48 -159 165 156 157 782 782 153 468 DACF 20 -282 386 11 30 -90 -70	74 282 7 12 -85 217 181 181 628 597 531 475 23:30 Merge 144 -177 400 -10 227 -41 -39 -152	-2 90 59 60 74 52 25 24 -154 -185 378 7 Delta 124 105 14 -21 197 49 31 51	70 117 -52 -39 -151 185 170 171 756 756	86 253 10 19 -77 227 194 194 634 588 542	16 136 62 58 74 42 24 23 -122 -168 383
FR FR FR FR FR FR FR FR FR FR FR FR FR F	CH C	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE MENTON VILLARODIN NODE 1 SIERENTZ MAMBELIN SIERENTZ BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE CAMPOROSSO VENAUS Node 2 ASPHARD BASSECOURT ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS	20 203 -89 -82 -196 158 132 132 504 504 256 11 DACF 167 -148 265 104 133 -32 -15 -123	-45 313 -52 -57 -169 178 128 128 459 395 264 144 17:30 Merge 269 -43 342 103 236 34 35 -49 228	-65 110 37 25 27 20 -4 -4 -45 -109 8 133 Delta 102 105 77 -1 103 66 50 74	-29 160 -99 -96 -211 134 120 120 565 565 151 113 DACF 7 -235 295 57 45 -53 -45 -145	-62 249 -45 -46 -144 171 129 129 450 385 320 169 19:30 Merge 168 -126 336 48 175 8 11 -78	-33 89 54 50 67 37 9 9 -115 -180 169 56 Delta 161 109 41 -9 130 61 56 67 33	76 192 -52 -48 -159 165 156 157 782 782 153 468 DACF 20 -282 386 11 30 -90 -70 -203	74 282 7 12 -85 217 181 181 628 597 531 475 23:30 Merge 144 -177 400 -10 -227 -41 -39 -152	-2 90 59 60 74 52 25 24 -154 -185 378 7 Delta 124 105 14 -21 197 49 31 51 3	70 117 -52 -39 -151 185 170 171 756 756	86 253 10 19 -77 227 194 194 634 588 542	16 136 62 58 74 42 24 23 -122 -168 383
FR FR FR FR FR FR FR FR FR FR FR FR FR F	CH C	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE MENTON VILLARODIN NODE 1 SIERENTZ MAMBELIN SIERENTZ BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE CAMPOROSSO VENAUS Node 2 ASPHARD BASSECOURT ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS	20 203 -89 -82 -196 158 132 132 1304 504 256 11 DACF 167 -148 265 104 133 -32 -15 -123 186 174	-45 313 -52 -57 -169 178 128 128 128 459 395 264 144 17:30 Merge 269 -43 342 103 236 34 35 -49 228	-65 110 37 25 27 20 -4 -4 -45 -109 8 133 Delta 102 105 77 -1 103 66 50 74 42	-29 160 -99 -96 -211 134 120 565 565 151 113 DACF 7 -235 295 57 45 -53 -45 -145 182	-62 249 -45 -46 -144 171 129 129 129 450 385 320 169 19:30 Merge 168 -126 336 48 175 8 11 -78 215	-33 89 54 50 67 37 9 -115 -180 169 56 Delta 161 109 41 -9 130 61 56 67 33 11	76 192 -52 -48 -159 165 156 157 782 782 153 468 DACF 20 -282 386 11 30 -90 -70 -203 192	74 282 7 12 -85 217 181 181 628 597 531 475 23:30 Merge 144 -177 400 -10 -227 -41 -39 -152 195	-2 90 59 60 74 52 25 24 -154 -185 378 7 Delta 124 105 14 -21 197 49 31 51 3 -6	70 117 -52 -39 -151 185 170 171 756 756	86 253 10 19 -77 227 194 194 634 588 542	16 136 62 58 74 42 24 23 -122 -168 383
FR FR FR FR FR FR FR FR FR FR FR FR FR F	CH CCH CC	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE MENTON VILLARODIN NODE 1 SIERENTZ MAMBELIN SIERENTZ BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE CAMPOROSSO VENAUS Node 2 ASPHARD BASSECOURT ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS	20 203 -89 -82 -196 158 132 132 504 256 11 DACF 167 -148 265 104 133 -32 -15 -123 186 174	-45 313 -52 -57 -169 178 128 128 459 395 264 144 17:30 Merge 269 -43 342 103 236 34 35 -49 228 193	-65 110 37 25 27 20 -4 -4 -45 -109 8 133 Delta 102 105 77 -1 103 66 50 74 42	-29 160 -99 -96 -211 134 120 120 565 565 151 113 DACF 7 -235 295 57 45 -53 -45 -145 182 165	-62 249 -45 -46 -144 171 129 129 450 385 320 169 19:30 Merge 168 -126 336 48 175 8 11 -78 215 176	-33 89 54 50 67 37 9 -115 -180 169 56 Delta 161 109 41 -9 130 61 56 67 33 11 11	76 192 -52 -48 -159 165 156 157 782 782 153 468 DACF 20 -282 386 11 30 -90 -70 -203 192 146 146	74 282 7 12 -85 217 181 181 628 597 531 475 23:30 Merge 144 -177 400 -10 227 -41 -39 -152 195 140	-2 90 59 60 74 52 25 24 -154 -185 7 Delta 124 105 14 -21 197 49 31 51 3 -6 -6	70 117 -52 -39 -151 185 170 171 756 756	86 253 10 19 -77 227 194 194 634 588 542	16 136 62 58 74 42 24 23 -122 -168 383
FR FR FR FR FR FR FR FR FR FR FR FR FR F	CH C	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE ALBERTVILLE MENTON VILLARODIN NODE 1 SIERENTZ MAMBELIN SIERENTZ BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE ALBERTVILLE	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE CAMPOROSSO VENAUS Node 2 ASPHARD BASSECOURT BASSECOURT ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE	20 203 -89 -82 -196 158 132 132 504 256 11 DACF 167 -148 265 104 133 -32 -15 -123 186 174 174 821	-45 313 -52 -57 -169 178 128 128 459 395 264 144 17:30 Merge 269 -43 342 103 236 34 35 -49 228 193 193 693 663	-65 110 37 25 27 20 -4 -4 -45 -109 8 133 Delta 102 105 77 -1 103 66 50 74 42 19 19 -128 -159	-29 160 -99 -96 -211 134 120 120 565 565 151 113 DACF 7 -235 295 57 45 -33 -45 -145 182 165 165 774	-62 249 -45 -46 -144 171 129 129 450 385 320 169 19:30 Merge 168 -126 336 48 175 8 11 -78 215 176 176 653	-33 89 54 50 67 37 9 9 -115 -180 169 56 Delta 161 109 41 -9 130 61 56 67 33 11 11	76 192 -52 -48 -159 165 156 157 782 153 468 DACF 20 -282 386 11 30 -90 -70 -203 192 146 544 544	74 282 7 12 -85 217 181 181 628 597 531 475 23:30 Merge 144 -177 400 -10 227 -41 -39 -152 195 140 508 460	-2 90 59 60 74 52 25 24 -154 -185 7 Delta 124 105 14 -21 197 49 31 51 3 -6 -6 -36	70 117 -52 -39 -151 185 170 171 756 756	86 253 10 19 -77 227 194 194 634 588 542	16 136 62 58 74 42 24 23 -122 -168 383
FR FR FR FR FR FR FR FR FR FR FR FR FR F	CH C	BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE MENTON VILLARODIN NODE 1 SIERENTZ MAMBELIN SIERENTZ BOIS TOLLOT SIERENTZ CORNIER CORNIER PRESSY BOIS TOLLOT GENISSIAT GENISSIAT ALBERTVILLE	ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS RONDISSONE RONDISSONE CAMPOROSSO VENAUS Node 2 ASPHARD BASSECOURT BASSECOURT ROMANEL LAUFENBURG RIDDES ST TRIPHON VALLORCINES VERBOIS VERBOIS VERBOIS VERBOIS RONDISSONE	20 203 -89 -82 -196 158 132 504 256 11 DACF 167 -148 265 104 133 -32 -15 -123 186 174 174 821	-45 313 -52 -57 -169 178 128 128 459 395 264 144 17:30 Merge 269 -43 342 103 236 34 35 -49 228 193 193 693	-65 110 37 25 27 20 -4 -4 -45 -109 8 133 Delta 102 105 77 -1 103 66 50 74 42 19	-29 160 -99 -96 -211 134 120 120 565 565 151 113 DACF 7 -235 295 57 45 -53 -45 -145 182 165 165 774	-62 249 -45 -46 -144 171 129 129 450 385 320 169 19:30 Merge 168 -126 336 48 175 8 11 -78 215 176 176 653 607	-33 89 54 50 67 37 9 -115 -180 169 56 Delta 161 109 41 -9 130 61 56 67 33 11 11 -121 -168	76 192 -52 -48 -159 165 156 157 782 153 468 DACF 20 -282 386 11 30 -90 -70 -203 192 146 146 544	74 282 7 12 -85 217 181 181 628 597 531 475 23:30 Merge 144 -177 400 -10 227 -41 -39 -152 195 140 508	-2 90 59 60 74 52 25 24 -154 -185 378 7 Delta 124 105 14 -21 197 49 31 51 3 -6 -6 -36 -84	70 117 -52 -39 -151 185 170 171 756 756	86 253 10 19 -77 227 194 194 634 588 542	16 136 62 58 74 42 24 23 -122 -168 383



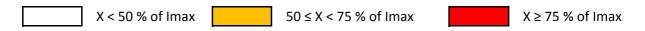
N state flows at 10:30 and 19:30

The Imax and load values in the table below are extracted from the merged TSOs' DACF.

TCO	Lina (200 la/)	10	:30	19	:30
TSO	Line (380 kV)	Imax (A)	% of Imax	Imax (A)	% of Imax
	Champion - Gramme (32)	2448	38	2448	44
	Doel - Mercator (51)	2239	19	2239	7
	Doel - Mercator (52)	2239	19	2239	7
FILA	Doel - Mercator (54)	2448	19	2448	7
ELIA	Doel - Zandvliet (25)	2349	10	2349	47
	Mercator - Horta (73)	2569	29	2569	24
	Courcelles - Gramme (31)	2327	47	2349	52
	Mercator - Rodenhuize/Horta (74)	2332	31	2349	25
	Attaques - Warande 2	3780	37	3780	41
	Avelin - Gavrelle	2622	36	2622	25
	Avelin - Warande	3458	9	3458	25
DTE	Lonny - Seuil	4149	11	4149	3
RTE	Mandarins - Warande 1	3780	36	3780	39
	Muhlbach - Scheer	2598	13	2598	17
	Revigny - Vigy	2596	26	2596	5
	Warande - Weppes	3458	5	3458	29

X < 50 % of Imax	50 ≤ X < 75 % of Imax	X ≥ 75 % of Imax
1		

TCO	Voltago	Line (280 kV)	10	:30	19	:30
TSO	Voltage	Line (380 kV)	Imax (A)	% of Imax	Imax (A)	% of Imax
		Eisenach - Mecklar (450-2)	2520	23	2520	38
		Hagenwerder - Mikulowa (567)	2520	41	2520	37
		Hagenwerder - Mikulowa (568)	2520	41	2520	37
		Remptendorf - Redwitz (413)	3394	47	3417	38
	380 kV	Remptendorf - Redwitz (414)	3394	47	3417	38
50 HzT		Röhrsdorf - Hradec (445)	2520	46	2520	27
30 HZ I		Röhrsdorf - Hradec (446)	2520	46	2520	27
		Vieselbach - Mecklar (449-1)	2520	20	2520	36
		Wolmirstedt - Helmstedt (491-1)	2400	18	2400	30
		Wolmirstedt - Helmstedt (492-2)	2400	18	2400	30
	220 kV	Vierraden - Krajnik (507)	1299	0	1334	0
	220 KV	Vierraden - Krajnik (508)	1299	0	1334	0





Special topologies at 10:30 and 19:30

		Nodes in North area		
			10:30	19:30
	Elia	Doel	1	1
	Ella	Avelgem	1	1
		Warande	1	1
		Cergy	2	2
		Terrier	1	1
	Rte	Plessis Gassot	1	1
		Mery/Seine	2	2
380 kV		Muhlbach	1	1
		Vigy	1	1
	Transnet bw	Eichstetten	1	1
	Amprion	Uchtelfangen	1	1
	Tennet DE	Redwitz	1	1
	50 HzT	Remptendorf	1	1
	30 HZ1	Wolmirstedt	1	1
	CEPS	Hradec Vychod	1	1
220 kV	50 HzT	Pasewalk	1	1



North analyses results

Security analyses have been performed for 24 timestamps.

All remedial actions have been agreed with concerned TSO during the day ahead process.

Constraints on Elia, RTE (North) and 50HzT 400kV grids and tie-lines

TSO	Validity		Cont	ingency				Constra	int		Timestamps of
130	validity	U (kV)	Substation 1	Substation 2	Code	Overload	U (kV)	Substation 1	Substation 2	Code	max
50HzT	10:00-	380	Graustein	Bärwalde	axis	100%	380	Graustein	Bärwalde	remaining	10:30
SUHZI	11:00			Pre	eventive ac	tion: 2 noo	les in Bäi	rwalde -> 86% re	maining		
50HzT	11:00-	380	Lauchstadt	Vieselbach	axis	102%	380	Lauchstadt	Vieselbach	remaining	11:30
SURZI	12:00			<u>Pre</u>	ventive ac	tion: 2 nod	es in Vie	selbach -> 96% r	emaining		

<u>Constraints greater than 100% on NL + Amprion 400kV grids and greater than 120% on DE, CZ, PL and SK 400kV grids</u>

TSO	Validity		Cont	ingency				Constra	int		Timestamps of
130	validity	U (kV)	Substation 1	Substation 2	Code	Overload	U (kV)	Substation 1	Substation 2	Code	max
TenneT	12:00-	380	Lelystad	Ens	axis	103%	380	Lelystad	Ens	remaining	12:30
NL	14:00			Preven	tive action	: Two node	topolgy	in Lelystad => 99	9% remaining		
TonnoT		380	Dörpen West	Hanekenfahr	axis	149%	200	Niederlangen	Monnon	romaining	11:30
TenneT DE /	00:00-		N-State overload 103% Niederlangen Meppen remaining								
Amprion	14:00		Prevent	ive actions: Redi	spatching a	and Reduct	ion of wi	nd infeed (to be	determined clos	e to real time)

Constraints on ELIA 220/150kV grid at 10:30

Contingency				Constraint					Comments
U (kV)	Substation 1	Substation 2	Code	Overload	U (kV)	Comments			
	No constraints detected								

50HzT DC loopflows sensitivity

Vierraden-Krajnik 220kV axis in long term outage till 2018.



South analyses results

Security analyses have been performed for these 2 timestamps:

Off-peak period (23:00 – 07:00): 04:30
Peak period (07:00 – 23:00): 21:30

Adaptations made on merged DACFs:

Off-peak:

• SI → IT physical flow adapted to 800 MW

• Mendrisio-Cagno flow adapted to this schedule : 196 MW

• PST of Lienz adapted to 150 MW

• PST of Camporosso adapted to 200 MW

Peak:

• SI → IT physical flow adapted to 800 MW

• Mendrisio-Cagno flow adapted to this schedule : 106 MW

• PST of Lienz adapted to: 140 MW

• PST of Camporosso adapted to 200 MW

Special topologies

Nodes in South area									
	Off Peak Peak								
	Swissgrid	Sils	1	1					
	3wissgi iu	Robbia	2	2					
	Rte	Génissiat	1	1					
		Albertville	1	1					
380 kV		Grande Ile	2	2					
	Terna	Turbigo	1	1					
		Baggio	1	1					
		Bovisio	1	1					
		Ostiglia	1	1					



N state flows Off-Peak & Peak

The Imax and load values in the table below are extracted from the adapted merged TSOs' DACF.

TCO	Valtage	Line (200 h)	Off	Peak	Pe	ak
TSO	Voltage	Line (380 kV)	Imax (A)	% of Imax	Imax (A)	% of Imax
		Albertville - Rondissone 1	2370	1	2370	34
		Albertville - Rondissone 2	2370	8	2370	31
		Bulciago - Soazza	2300	22	2300	31
		Cagno - Mendrisio	855	32	855	17
	380 kV	Musignano - Lavorgo	2270	30	2270	36
		Redipuglia - Divaca		44	2450	37
		Robbia - San Fiorano	2530	14	2530	28
		Robbia - Gorlago	2530	26	2530	39
Terna		Venaus - Villarodin	2715	1	2715	38
		Airolo - Ponte	900	20	900	15
		Lienz - Soverzene	704	53	704	50
		Menton - Campo Rosso	1165	42	1165	42
	220 kV	Padriciano - Divaca	960	15	960	41
		Riddes - Avise	1010	6	1010	18
		Riddes - Valpelline	1010	7	1010	19
		Serra - Pallanzeno	900	11	900	30

For Terna:			
	X < 50 % of Imax	50 ≤ X < 75 % of Imax	X ≥ 75% of Imax

Sensitivity coefficients for the Pentalateral instruction

The amount of the control program curtailment on peak and off-peak can be calculated thanks to the sensitivities in the table below:

		FR → IT	CH → IT	AT → IT	SI → IT
Off Peak	Initial physical flows on adapted base case	71	1776	151	784
	Compensation ratio (calculated from NTC)	37%	51%	4%	9%
	Pentalateral impact on physical flows	-26%	-57%	-3%	-14%
	Initial physical flows on adapted base case	1993	2753	141	797
Peak	Compensation ratio (calculated from NTC)	36%	51%	5%	8%
	Pentalateral impact on physical flows	-25%	-57%	-4%	-14%



OFF PEAK

Off Peak constraints on APG, Eles, RTE (South), Swissgrid and Terna 400kV grids and tie-lines

	TSO	Contingency				Constraint					
	150	U (kV)	Substation 1	Substation 2	Code	Overload	U (kV)	Substation 1	Substation 2	Code	
			80 Albertville	Busbar		107%	220	Pressy	Passy	3	
Off	RTE	RTE 380			1	118%	220	Albertville	Longfan	3	
Peak		Curativ	re actions: set la Praz I	PST to neutral position	emaining or	n Pressy ·	- Passy and 93 % re	maining on Albertv	ille - Longfan		
	APG / Eles /	380	ATD Redipu	glia - Planais		99%	380	Lienz	PST		
	Terna		just for informat					information			

PEAKPeak constraints on APG. Eles. RTE (South). Swissgrid and Terna 400kV grids and tie-lines

	TSO	Contingency			Constraint					
	130	U (kV)	Substation 1	Substation 2	Code	Overload	U (kV)	Substation 1	Substation 2	Code
Peak	RTE	380	Albertville	la Coche	1&2	106%	380	Albertville	Longfan	3
reak	NIL		Curative actions: set la Praz PST to neutral position => 80% remaining							

Final PSTs settings

The tables below present the tap positions and the physical flows on different PSTs with the adaptations described at the top of the page (IT-SI target flow...) and preventive actions (before Pentalateral reduction).

PST		Off Peak
FSI	Tap position	Physical flow to Italy (MW)
La Praz (1/33)	1	-101
Rondissone 1 (1/33)	9	-128
Rondissone 2 (1/33)	15	-20
Camporosso (-32/32)	-27	202
Lienz (-32/32)	15	153
Padriciano (1/33)	1	32
Divaca (-32/32 each)	32	755

PST	Peak				
FSI	Tap position	Physical flow to Italy (MW)			
La Praz (1/33)	1	499			
Rondissone 1 (1/33)	10	516			
Rondissone 2 (1/33)	12	550			
Camporosso (-32/32)	-8	202			
Lienz (-32/32)	0	143			
Padriciano (1/33)	13	157			
Divaca (-32/32 each)	7	641			

Conclusion

CWE: For Elia and RTE no constraints detected, but high wind infeed in Germany makes significant amounts of redispatch necessary to release constraint on Amprion/ TennetDE border. Furthermore TennetNL asked to reduce Belgian PST taps to help with internal constraint (taps adapted to 6/6/12/12 for first 15 hours of the day.

CEE: No critical constraints detected. CSE: No critical constraints detected