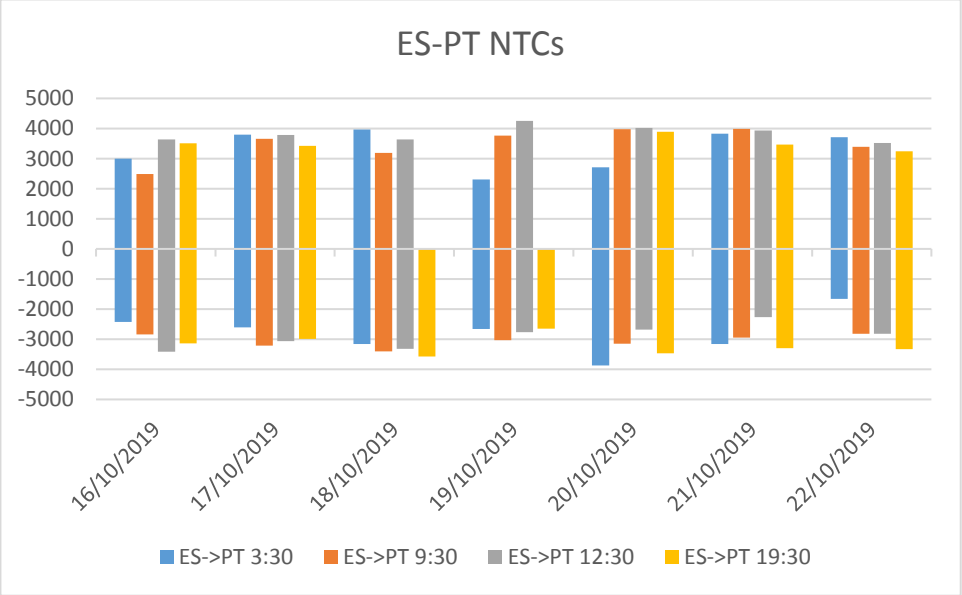
SWE Capacity Calculation report for Stakeholders

The elements in this report are based on ongoing experimentation with continuous tool improvement. The values/limiting elements can still evolve a bit until Go-Live.

This document reports results of the external parallel run from the 16/10/2019 to the 22/10/2019.

PT-ES NTCs

		16/10/2019		17/10/2019		18/10/2019		19/10/2019		20/10/2019		21/10/2019		22/10/2019	
		D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly
ES->PT	3:30	2996	3100	3798	3100	3965	3100	2312	2600	2709	2600	3824	2600	3709	2500
	9:30	2493	3400	3659	3400	3192	3400	3764	3000	3979	2600	3985	2400	3388	2400
	12:30	3639	3400	3780	3400	3641	3400	4255	3000	4024	2600	3937	2400	3519	2400
	19:30	3508	3400	3426	3400	N/A	3400	N/A	3000	3889	3000	3465	2400	3240	2400
PT->ES	3:30	2423	3600	2610	3600	3163	3600	2655	3600	3870	3600	3163	3600	1660	4000
	9:30	2843	2900	3210	2900	3399	2900	3028	3400	3150	3600	2942	3400	2817	3400
	12:30	3419	2900	3065	2900	3316	2900	2768	3400	2679	3600	2263	3400	2821	3400
	19:30	3134	2900	2986	2900	3579	2900	2649	3400	3470	3400	3294	3400	3325	3400



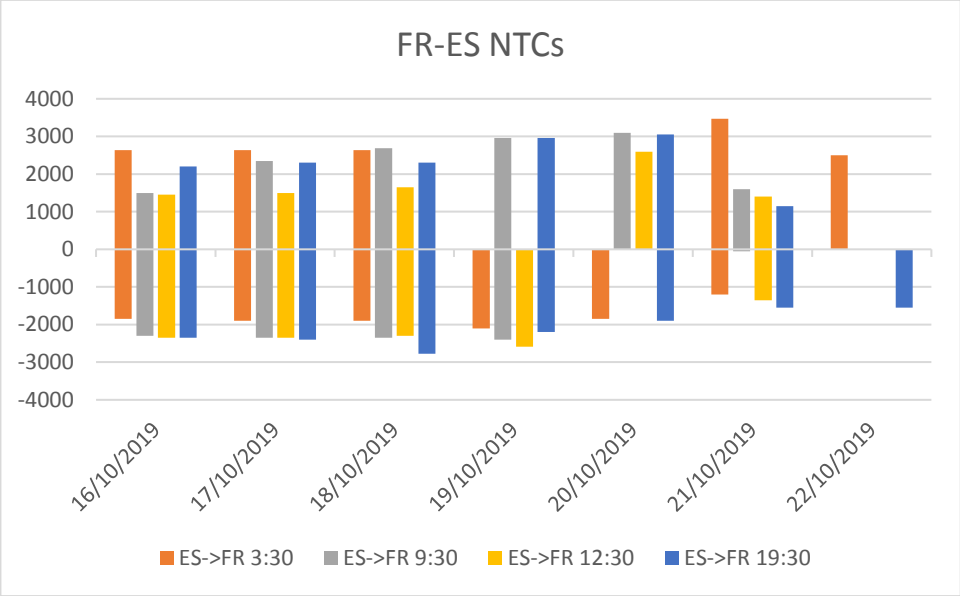
Comments:

Only two computations failed for the PT-ES border over this fourteenth week of external parallel run with generally good results. Please note that not all the hours have been validated by TSOs at this moment.

Please keep in mind that today only one voltage angle is monitored during the computation. Multiple voltage angle monitoring should be tackled before Go-Live.

FR-ES NTCs

		16/10/2019		17/10/2019		18/10/2019		19/10/2019		20/10/2019		21/10/2019		22/10/2019	
		D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly
ES->FR	3:30	2636	2600	2636	2600	2636	2600	N/A	2900	N/A	2900	3469	2900	2498	2500
	9:30	1500	2500	2350	2500	2683	2500	2960	2800	3099	2900	1600	2350	N/A	2350
	12:30	1450	2500	1500	2500	1650	2500	N/A	2800	2590	2900	1400	2350	N/A	2350
	19:30	2200	2500	2300	2500	2300	2700	2960	2800	3053	2800	1150	2350	N/A	2350
FR->ES	3:30	1850	1700	1900	1700	1900	1700	2100	1600	1850	1600	1200	1600	N/A	1750
	9:30	2300	2100	2350	2100	2350	2100	2400	2200	N/A	1600	50	2300	N/A	2300
	12:30	2350	2100	2350	2100	2300	2100	2590	2200	N/A	1600	1350	2300	N/A	2300
	19:30	2350	2100	2400	2100	2775	2300	2200	2200	1900	2200	1550	2300	1550	2300



Comments:

Eleven computations failed for the ES-FR border over this fourteenth week of external parallel run. The reasons of the computations failures are under investigation and some of them were corrected.

For the moment, the voltage is monitored in the computation but cannot limit the capacity. During External parallel run voltage will be monitored through the local validation of results by TSOs even if it is a common task.

Limiting elements PT-ES

Please find below the 3 limiting elements appearing over the period for PT->ES direction

	Limiting CNEC	Location CNE	Frequency
#1	**Angle constraint**	**PT**	**75,00%**
	N-2 400 kV (ES-PT)		75,00%
#2	**L-220 kV**	**ES**	**17,86%**
	N-2 400 kV (ES)		17,86%
#3	**L-400 kV**	**PT**	**7,14%**
	N-2 400 kV (ES-PT)		7,14%

Find below the 4 limiting elements appearing more often over the period for ES->PT direction:

	Limiting CNEC	Location CNE	Frequency
#1	**Angle constraint**	**PT**	**75,00%**
	N-2 400 kV (ES-PT)		75,00%
#2	**L-400 kV**	**ES-PT**	**14,29%**
	N-2 400 kV (ES-PT)		14,29%
#3	**IT issue**		**7,14%**
	IT issue		7,14%
#4	**L-220 kV**	**ES**	**3,57%**
	N-1 400 kV (ES)		3,57%

Limiting elements FR-ES

Please find below the 5 limiting elements appearing more often over the period for FR->ES direction:

	Limiting CNEC	Location CNE	Frequency
#1	**L-220 kV**	**FR-ES**	**42,86%**
	N-1 400kV		28,57%
	N-1 400 kV (ES-FR)		10,71%
	N-1 220 kV		3,57%
#2	**L-220 kV**	**FR-ES**	**10,71%**
	N-1 400 kV (ES-FR)		7,14%
	N-1 220 kV		3,57%
#2	**IT issue**		**10,71%**
	IT issue		10,71%
#2	**L-220 kV**	**FR**	**10,71%**
	N-1 400 kV (ES-FR)		7,14%
	N-1 Power Plant		3,57%
#5	**L-220 kV**	**ES**	**7,14%**
	N-1 220 kV		7,14%
#5	**L-220 kV**	**ES**	**7,14%**
	Basecase		7,14%

Find below the 5 limiting elements appearing more often over the period for ES->FR direction:

	Limiting CNEC	Location CNE	Frequency
#1	**L-400 kV**	**FR**	**25,00%**
	N-1 220 kV		14,28%
	N-1 400 kV		10,71%
#2	**L-220 kV**	**FR-ES**	**21,43%**
	N-1 220 kV		17,86%
	N-1 400 kV		3,57%
#2	**L-220 kV**	**FR-ES**	**21,43%**
	N-1 220 kV		14,29%
	N-1 400 kV		3,57%
	N-1 400 kV		3,57%
#4	**IT issue**		**14,29%**
	IT issue		14,29%
#5	**L-400 kV**	**FR-ES**	**7,14%**
	N-1 220 kV		7,14%
#5	**L-220 kV**	**ES**	**7,14%**
	N-1 220 kV		7,14%