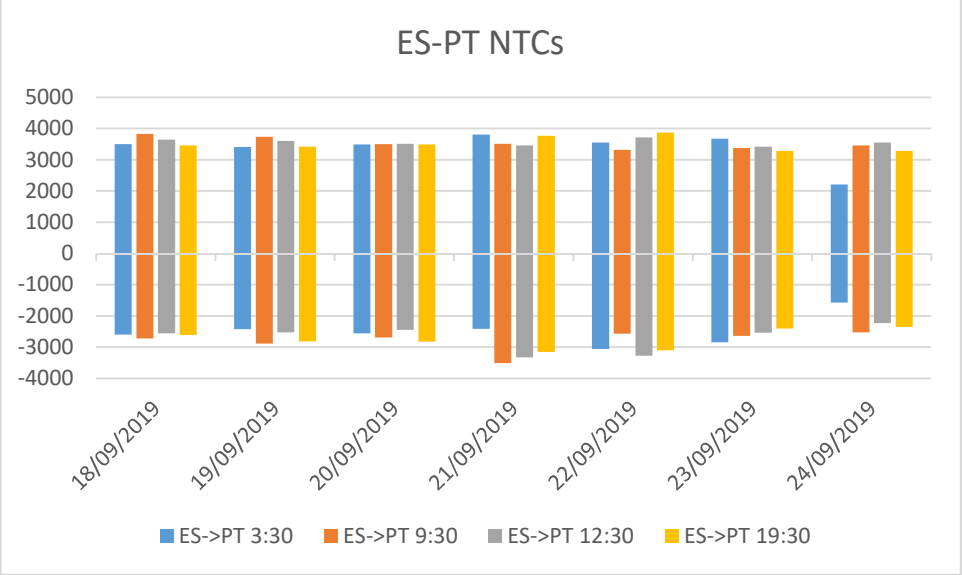
SWE Capacity Calculation report for Stakeholders

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 the18/09/2019 to the 24/09/2019.

PT-ES NTCs

		18/09/2019		19/09/2019		20/09/2019		21/09/2019		22/09/2019		23/09/2019		24/09/2019	
		NTC D-2	Weekly	NTC D-2	Weekly	NTC D-2	Weekly	NTC D-2	Weekly	NTC D-2	Weekly	NTC D-2	Weekly	NTC D-2	Weekly
ES->PT	3:30	3506	2700	3410	2700	3487	2700	3805	2700	3553	2700	3671	2700	2212	2700
	9:30	3825	3550	3735	2700	3505	3550	3508	3600	3321	2700	3383	3500	3456	3500
	12:30	3645	3550	3600	2700	3510	3550	3461	3600	3715	2700	3420	3500	3555	3500
	19:30	3465	3550	3420	3550	3496	3550	3765	3600	3870	3600	3285	3500	3285	3500
PT->ES	3:30	2597	2600	2429	2600	2558	2600	2419	2700	3060	2700	2841	2700	1575	2700
	9:30	2722	2500	2889	2600	2690	2500	3510	2300	2565	2700	2643	2300	2525	2300
	12:30	2555	2500	2523	2600	2444	2500	3330	2300	3274	2700	2538	2300	2232	2300
	19:30	2609	2500	2812	2500	2823	2500	3150	2300	3105	2300	2409	2300	2353	2300



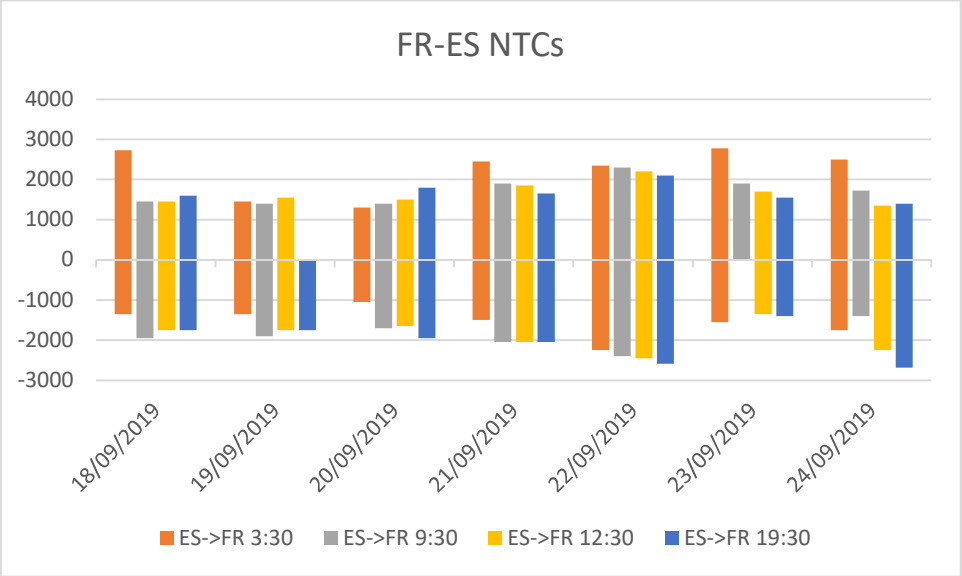
Comments:

No computation failed for the PT-ES border over this tenth 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

		18/09/2019		19/09/2019		20/09/2019		21/09/2019		22/09/2019		23/09/2019		24/09/2019	
		NTC D-2	Weekly	NTC D-2	Weekly	NTC D-2	Weekly	NTC D-2	Weekly	NTC D-2	Weekly	NTC D-2	Weekly	NTC D-2	Weekly
ES->FR	3:30	2729	2900	1450	2900	1300	2900	2450	2900	2350	2900	2775	2900	2498	2900
	9:30	1450	1600	1400	2900	1400	1600	1900	2250	2300	2900	1900	1200	1722	1200
	12:30	1450	1600	1550	2900	1500	1600	1850	2250	2200	2900	1700	1200	1350	1200
	19:30	1595	1600	N/A	1600	1800	1600	1650	2250	2100	2250	1550	1200	1400	1200
FR->ES	3:30	1350	1400	1350	1400	1050	1400	1500	1500	2250	1500	1550	1500	1750	1500
	9:30	1950	1600	1900	1400	1700	1600	2050	1600	2400	1500	N/A	1600	1400	1600
	12:30	1750	1600	1750	1400	1650	1600	2050	1600	2450	1500	1350	1600	2250	1600
	19:30	1750	1600	1750	1600	1950	1600	2050	1600	2590	1600	1400	1600	2683	1600



Comments:

Only two computations failed for the ES-FR border over this tenth week of external parallel run.

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 5 limiting elements appearing more often over the period for PT->ES direction

	Limiting CNEC	Location CNE	Frequency
#1	**L-400 kV**	**ES-PT**	**81,48%**
	N-2 400 kV (ES-PT)		81,48%
#2	**L-220 kV**	**ES**	**7,41%**
	N-2 400 kV		7,41%
#3	**GLSK limitation**		**3,70%**
	Base Case		3,70%
#4	**L-400 kV 1**	**PT**	**3,70%**
	N-2 400 kV (ES-PT)		3,70%
#5	**Loadflow divergence**		**3,70%**
	N-1 400 kV		3,70%

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

	Limiting CNEC	Location CNE	Frequency
#1	**L-400 kV**	**ES-PT**	**59,26%**
	N-2 400 kV (ES-PT)		59,26%
#2	**L-220 kV**	**PT**	**18,52%**
	N-2 400 kV (ES-PT)		11,11%
	N-1 400 kV		7,40%
#3	**Angle constraint**		**11,11%**
	N-2 (ES-PT)		11,11%
#4	**Loadflow divergence**		**7,41%**
	N-1 400 kV		7,41%
#5	**L-220 kV**	**PT-ES**	**3,70%**
	N-1 400 kV		3,70%

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-400 kV**	**FR**	**59,26%**
	N-1 Power Plant (ES-ES)		59,26%
#2	**L-400 kV**	**ES**	**14,81%**
	N-1 Power Plant (ES-ES)		14,81%
#3	**L-220 kV**	**FR-ES**	**11,11%**
	N-1 400 kV (FR-ES)		11,11%
#3	**L-220 kV**	**FR**	**11,11%**
	N-1 (FR-FR)		7,41%
	N-1 Power Plant (ES-ES)		3,70%
#5	**L-220 kV**	**FR-ES**	**3,70%**
	N-1 (FR-FR)		3,70%

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

	Limiting CNEC	Location CNE	Frequency
#1	**L-220 kV**	**ES**	**19,23%**
	N-1 400 kV (ES-ES)		19,23%
#2	**L-220 kV**	**FR-ES**	**15,38%**
	N-1 (FR-FR)		11,54%
	N-1 (FR-ES)		3,84%
#3	**L-400 kV**	**FR-ES**	**15,38%**
	N-1 (FR-FR)		15,38%
#4	**L-220 kV**	**FR-ES**	**15,38%**
	N-1 400 kV (FR-ES)		11,54%
	N-1 400 kV (ES-ES)		3,85%
#5	**L-220 kV**	**FR**	**11,54%**
	N-1 Power Plant (ES-ES)		11,54%
#5	**L-220 kV**	**FR**	**11,54%**
	N-1 Power Plant (ES-ES)		11,54%