

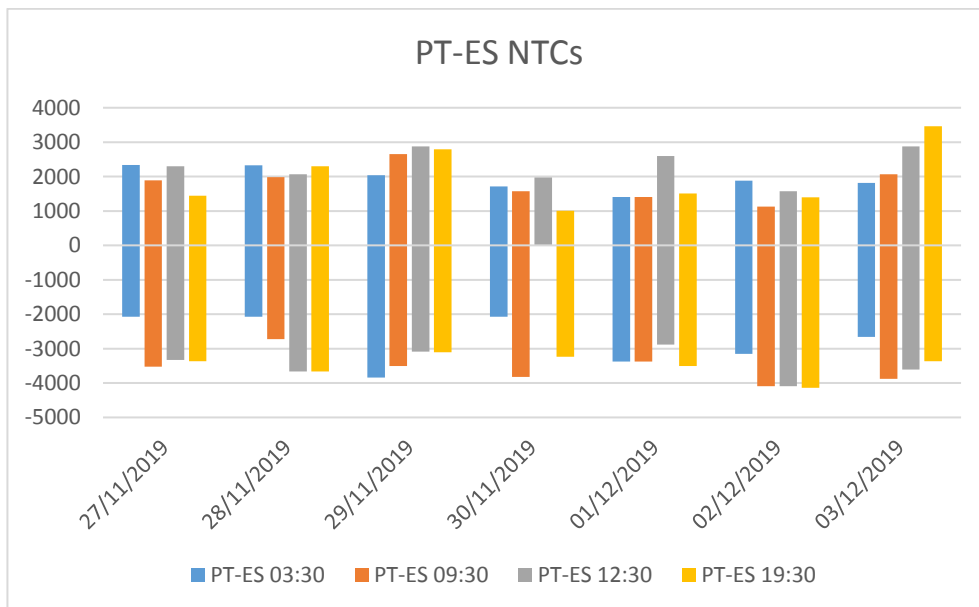
SWE Capacity Calculation report for Stakeholders

The elements in this report are based on ongoing experimentation with continuous tool improvement. The values/limiting elements

This document reports results of the external parallel run from the 27/11/2019 to the 03/12/2019.

ES-PT NTCs

	27/11/2019		28/11/2019		29/11/2019		30/11/2019		01/12/2019		02/12/2019		03/12/2019	
	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly
ES->PT														
03h30	2336	3300	2329	3300	2043	3300	1714	2800	1408	2800	1884	2800	1818	2800
09h30	1890	2600	1980	2600	2655	2600	1578	2600	1408	2800	1125	2600	2070	2600
12h30	2295	2600	2070	2600	2880	2600	1976	2600	2595	2800	1575	2600	2880	2600
19h30	1440	2600	2295	2600	2790	2600	1006	2600	1511	2600	1395	2600	3465	2600
PT->ES														
03h30	2070	3700	2070	3700	3843	3700	2070	3700	3375	3700	3150	3700	2655	3700
09h30	3522	3450	2725	3450	3510	3450	3825	3600	3375	3700	4095	3600	3874	3600
12h30	3330	3450	3661	3450	3084	3450	N/A	3600	2880	3700	4095	3600	3607	3600
19h30	3363	3450	3663	3450	3103	3450	3240	3600	3510	3600	4140	3600	3363	3600



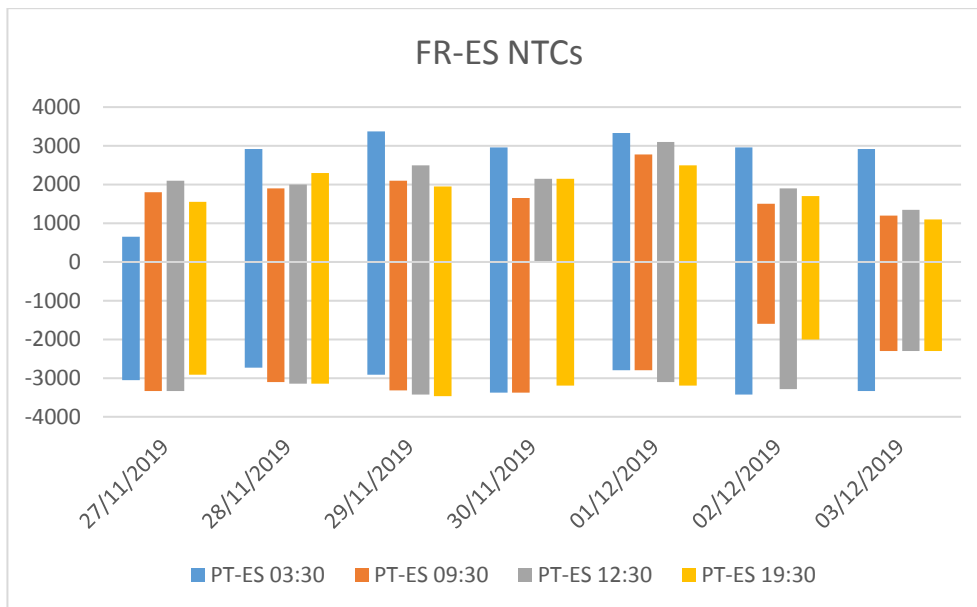
Comments:

Only one computation failed for the PT-ES border over this twentieth week of External parallel run with 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

	27/11/2019		28/11/2019		29/11/2019		30/11/2019		01/12/2019		02/12/2019		03/12/2019	
	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly
ES->FR														
03,30	650	3400	2914	3250	3376	3400	2960	3100	3330	3100	2960	3100	2914	3100
09,30	1800	2200	1900	2300	2100	2200	1650	1600	2775	3100	1500	1100	1200	1200
12,30	2100	2200	2000	2300	2498	2200	2150	1600	3099	3100	1900	1100	1350	1200
19,30	1550	2300	2300	2200	1950	2200	2150	1600	2498	1600	1700	1600	1100	1200
FR->ES														
03,30	3053	3000	2729	2650	2914	3000	3376	2800	2800	2800	3423	2800	3330	2800
09,30	3330	3200	3099	3000	3321	3200	3376	3000	2800	2800	1600	3000	2300	2100
12,30	3330	3200	3145	3000	3423	3200	N/A	3000	3099	2800	3284	3000	2300	2100
19,30	2914	3000	3145	3200	3469	3200	3191	3000	3191	3000	2000	3000	2300	2100



Comments:

Four computations failed for the FR-ES over this twentieth week of External parallel run with good results. However three of them (marked in blue) were replaced by Long term values as fallback procedure (weekly values used as Long term values).

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:

Critical Network Elements and Contingencies PT->ES		Location CNE	Frequency
# 1	L-400 kV Interconnector	ES-PT	39.3%
	N-2 Interconnector 400 kV (ES-PT)		39.3%
# 2	L-400 kV	PT	35.7%
	N-2 Interconnector 400 kV (ES-PT)		35.7%
# 3	GLSK limitation	PT	14.3%
	N state		14.3%
# 4	Computation Failed		3.6%
	Computation Failed		3.6%
# 4	L-220 kV	ES	3.6%
	N-1 400 kV (ES)		3.6%
# 4	Loadflow divergence		3.6%
	N-2 400 kV (ES)		3.6%

Find below the limiting element appearing over the period for ES->PT direction:

Critical Network Elements and Contingencies ES->PT		Location CNE	Frequency
#1	Angle difference	PT	100.0%
	N-2 Interconnector 400 kV (ES-PT)		100.0%

Limiting elements FR-ES

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

Critical Network Elements and Contingencies FR->ES		Location CNE	Frequency
# 1	L-400 kV	FR	32.1%
	N-1 220 kV (FR)		21.4%
	N-1 Interconnector 400 kV (FR-ES)		10.7%
# 2	L-220 kV Interconnector	FR-ES	21.4%
	N-1 220 kV (FR)		21.4%
# 3	Computation Failed		10.7%
	Long term value		7.1%
	Computation Failed		3.6%
# 3	Loadflow divergence		10.7%
	N-1 Nuclear Power Plant (ES)		10.7%
# 4	L-220 kV	FR	7.1%
	N-1 Interconnector 400 kV (FR-ES)		7.1%
# 4	L-220 kV Interconnector	FR-ES	7.1%
	N-1 Interconnector 400 kV (FR-ES)		7.1%
# 4	L-220 kV	FR	7.1%
	N-1 220 kV (FR)		3.6%
	N-1 Interconnector 400 kV (FR-ES)		3.6%

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

Critical Network Elements and Contingencies ES ->FR		Location CNE	Frequency
# 1	L-220 kV Interconnector	FR-ES	71.4%
	N-1 Interconnector 400 kV (FR-ES)		64.3%
	N-1 220 kV (FR)		3.6%
	N-1 400 kV (FR)		3.6%
# 2	L-220 kV	FR	10.7%
	N-1 220 kV (FR)		10.7%
# 3	AT-400/220 kV	FR	7.1%
	N-1 400 kV (FR)		7.1%
# 4	Loadflow divergence		3.6%
	N-1 Interconnector 400 kV (FR-ES)		3.6%
# 4	Computation Failed		3.6%
	Long term value		3.6%
# 4	L-220 kV	ES	3.6%
	N-2 400 kV (ES)		3.6%