

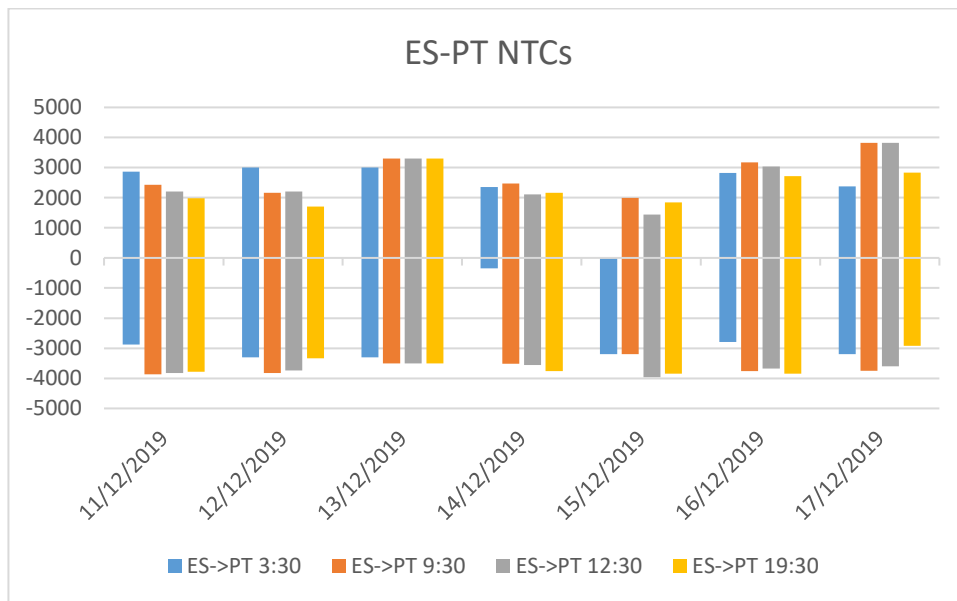
SWE Capacity Calculation report for Stakeholders

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 11/12/2019 to the 17/12/2019

ES-PT NTCs

Oriented Borders	TS	11/12/2019		12/12/2019		13/12/2019		14/12/2019		15/12/2019		16/12/2019		17/12/2019	
		D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly
ES->PT	3:30	2870	3000	3000	3000	3000	3000	2351	2800	N/A	2800	2826	2800	2374	2800
	9:30	2430	3300	2160	3300	3300	3300	2475	2500	1994	2800	3174	2500	3825	2500
	12:30	2205	3300	2205	3300	3300	3300	2115	2500	1440	2800	3040	2500	3822	2500
	19:30	1980	3300	1710	3300	3300	3300	2160	2500	1845	2500	2716	2500	2835	2500
PT->ES	3:30	2880	3300	3300	3300	3300	3300	350	3900	3195	3900	2790	3900	3195	3900
	9:30	3870	3500	3825	3500	3500	3500	3510	2800	3195	3900	3761	2800	3753	2800
	12:30	3825	3500	3735	3500	3500	3500	3555	2800	3960	3900	3676	2800	3601	2800
	19:30	3785	3500	3330	3500	3500	3500	3755	2800	3847	2800	3848	2800	2921	2800



Comments:

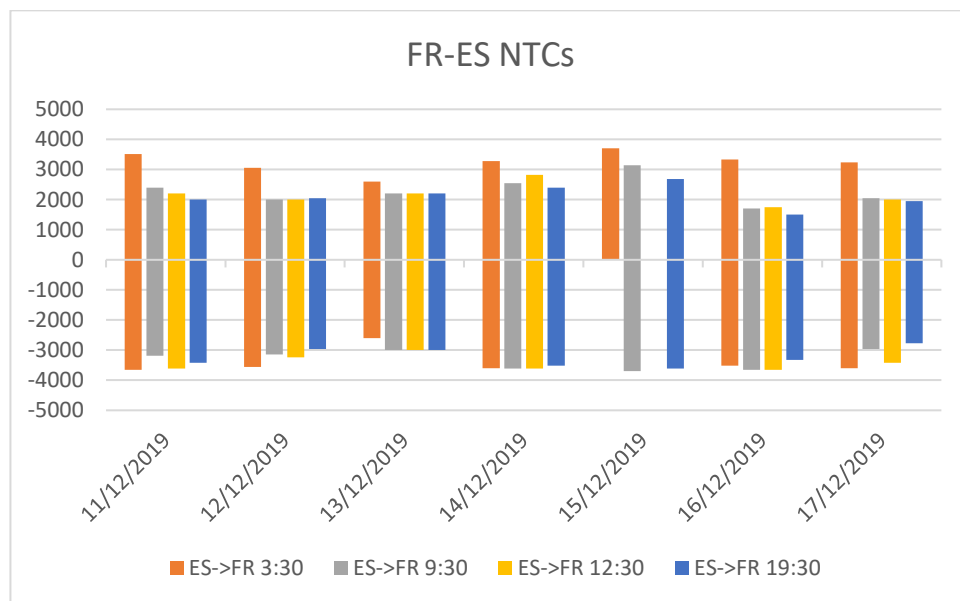
Eleven computations failed for the PT-ES border over this twenty-second week of External parallel run. Ten failed computations were replaced by Long term values as fallback procedure (weekly values used as Long term values).

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

Oriented Borders	TS	11/12/2019		12/12/2019		13/12/2019		14/12/2019		15/12/2019		16/12/2019		17/12/2019	
		D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly
ES->FR	3:30	3515	2600	3053	2600	2600	2600	3284	3200	3700	3200	3330	3200	3238	3200
	9:30	2400	2200	2000	2200	2200	2200	2544	1900	3145	3200	1700	1900	2050	1900
	12:30	2200	2200	2000	2200	2200	2200	2821	1900	N/A	3200	1750	1900	2000	1900
	19:30	2000	2200	2050	2200	2200	2200	2400	1900	2683	1900	1500	1900	1950	1900
FR->ES	3:30	3654	2600	3561	2600	2600	2600	3600	3600	N/A	3600	3515	3600	3600	3600
	9:30	3191	3000	3145	3000	3000	3000	3608	3400	3700	3600	3654	3400	2960	3400
	12:30	3608	3000	3238	3000	3000	3000	3608	3400	N/A	3600	3654	3400	3423	3400
	19:30	3423	3000	2960	3000	3000	3000	3515	3400	3608	3400	3330	3400	2775	3400



Comments:

Thirteen computations failed for the FR-ES over this twenty-second week of External parallel run. Ten failed computations 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	50,00%
	N-2 Interconnector 400 kV (ES-PT)		50,00%
# 2 Computation failed			32,15%
	LT Value		17,86%
	Computation failed		14,29%
# 3 Angle Constraint		PT	10,71%
	N-2 Interconnector (ES-PT)		10,71%
# 4 GLSK limitation		PT	3,57%
	N State		3,57%
# 4 Loadflow divergence			3,57%
	N-2 Interconnector 400 kV (ES)		3,57%

Find below the 2 limiting element appearing over the period for ES->PT direction:

Critical Network Elements and Contingencies ES ->PT		Location CNE	Frequency
# 1 Angle Constraint		PT	75,00%
	N-2 Interconnector 400 kV (ES-PT)		75,00%
# 2 Computation Failed			25,00%
	LT Value		17,86%
	Computation failed		7,14%

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 Loadflow divergence			35,71%
	N-1 Nuclear Power Plant (ES)		35,71%
# 2 Computation Failed			32,14%

		LT Value	21,43%
		Computation failed	10,71%
# 3	L-220 kV		ES-FR 14,29%
		N-1 Interconnector 400 kV (ES-FR)	10,71%
		N-1 400 kV (FR)	3,57%
# 4	L-400 kV		ES 3,57%
		N-1 400 kV (ES)	3,57%
# 4	L-400 kV		ES-FR 3,57%
		N-1 400 kV (FR)	3,57%
# 4	L-400 kV		FR 3,57%
		N-1 400 kV (FR)	3,57%
# 4	L-400 kV		ES-FR 3,57%
		N-1 Nuclear Power Plant (ES)	3,57%
# 4	L-220 kV		FR 3,57%
		N-1 400 kV (FR)	3,57%

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	ES-FR	53,57%
	N-1 220 kV (FR)		32,14%
	N-1 400kV (ES)		14,29
	N-1 400 kV (FR)		7,14%
# 2	Computation failed		25,00%
	LT Value		14,29%
	Computation failed		10,71%
# 3	L-220 kV	FR	7,14%
	N-1 400kV (ES-FR)		7,14%
# 3	L-220 kV	ES-FR	3,57%
	N-1 400 kV (FR)		3,57%
# 4	L-400 kV	ES	3,57%
	N-1 400 kV (ES)		3,57%
# 4	Loadflow divergence		3,57%
	N-1 Nuclear Power Plant (ES)		3,57%