

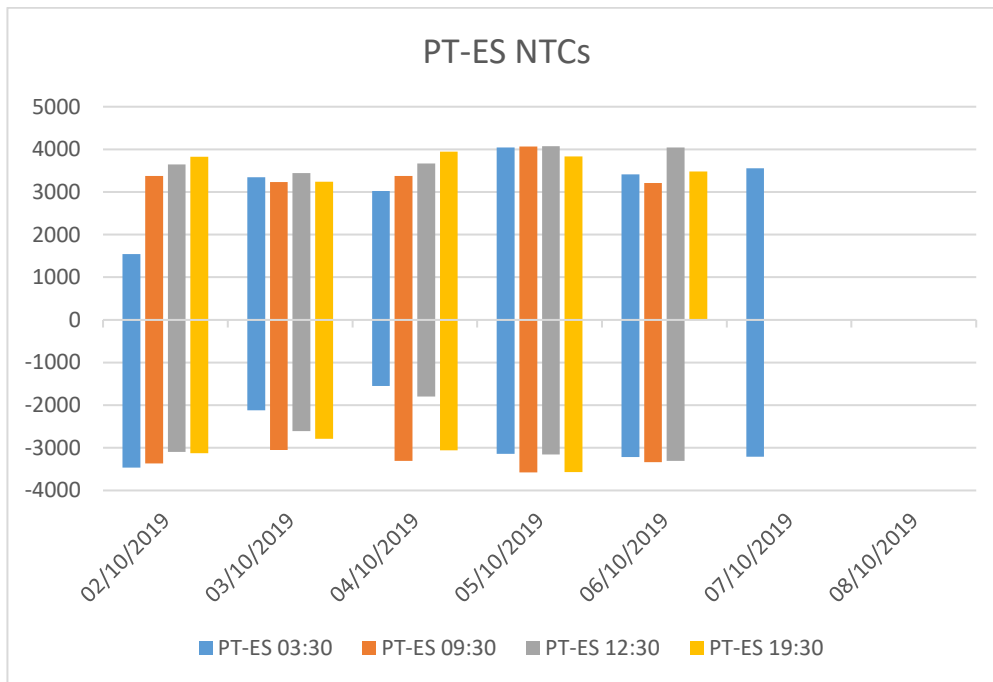
SWE Capacity Calculation report for Stakeholders

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 02/10/2019 to the 08/10/2019.

PT-ES NTCs

	NTC PT-ES															
	3:30				9:30				12:30				19:30			
	ES>PT		PT>ES		ES>PT		PT>ES		ES>PT		PT>ES		ES>PT		PT>ES	
	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly
08/10/2019	NA	2500	NA	3700	NA	2900	NA	3000	NA	2900	NA	3000	NA	2900	NA	3000
07/10/2019	3555	2700	3207	3700	NA	2900	NA	3000	NA	2900	NA	3000	NA	2900	NA	3000
06/10/2019	3416	2700	3215	3700	3208	2700	3339	3700	4046	2700	3308	3700	3481	3100	NA	3000
05/10/2019	4047	2700	3144	3700	4068	2700	3578	3350	4071	2700	3156	3350	3830	3100	3570	3000
04/10/2019	3021	3400	1548	2900	3379	3500	3304	3000	3669	3500	1798	3000	3949	4400	3057	3000
03/10/2019	3348	3400	2120	2900	3235	3500	3047	3000	3441	3500	2610	3000	3240	3500	2789	3000
02/10/2019	1545	3400	3465	2900	3375	3500	3364	3000	3645	3500	3094	3000	3825	3500	3129	3000



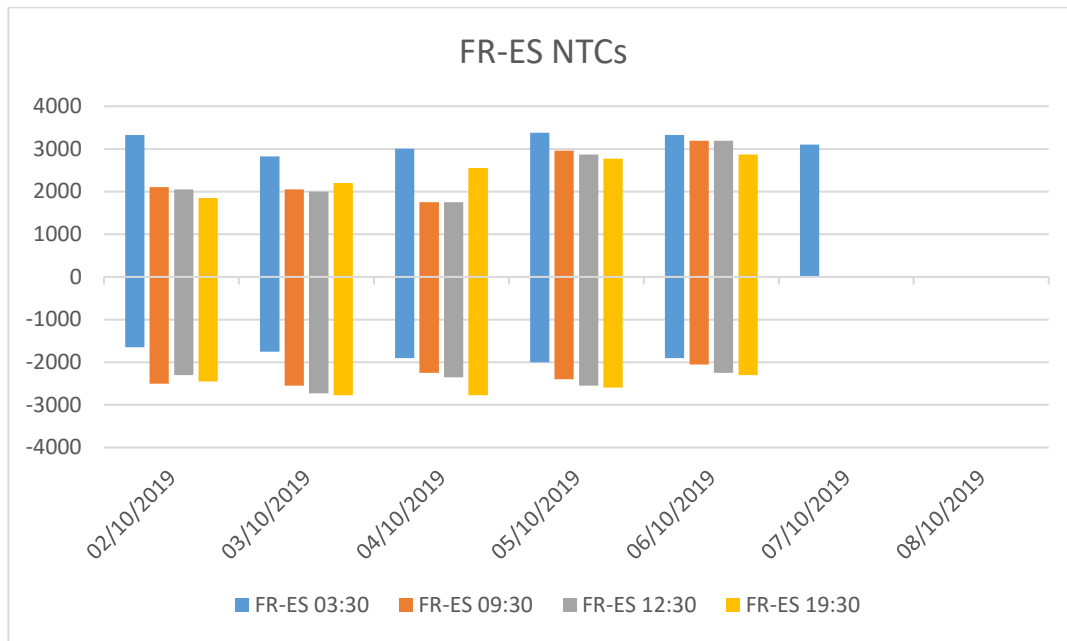
Comments:

Fifteen computations failed for the PT-ES border over this twelfth week of External parallel run with generally good results. The reasons of the computation failures are under investigation and some of them were corrected. 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

	NTC FR-ES															
	3:30				9:30				12:30				19:30			
	ES>FR		FR>ES		ES>FR		FR>ES		ES>FR		FR>ES		ES>FR		FR>ES	
	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly	D-2	Weekly
08/10/2019	NA	2500	NA	1700	NA	2500	NA	2000	NA	2500	NA	2000	NA	2500	NA	2000
07/10/2019	3099	3100	NA	1700	NA	2500	NA	2000	NA	2500	NA	2000	NA	2500	NA	2000
06/10/2019	3330	3100	1900	1700	3191	3100	2050	1700	3191	3100	2250	1700	2868	2650	2300	2200
05/10/2019	3376	3100	2000	1700	2960	2650	2400	2200	2868	2650	2550	2200	2775	2650	2590	2200
04/10/2019	3006	3000	1900	1800	1753	2800	2250	2100	1750	2800	2350	2100	2550	2800	2775	2100
03/10/2019	2821	3000	1750	1800	2050	2800	2550	2100	2000	2800	2729	2100	2200	2800	2775	2100
02/10/2019	3330	3000	1650	1800	2100	2800	2500	2100	2050	2800	2300	2100	1850	2800	2450	2100



Comments:

Fifteen computations failed for the FR-ES over this twelfth week of External parallel run with generally good results. The reasons of the computation failures are under investigation and some of them were corrected. Please note that not all the hours have been validated by TSOs at this moment.

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	35,7%
		N-2 Interconnector 400 kV (ES-PT)		35,7%
# 2	Computation Failed			28,6%
		Computation Failed		28,6%
# 3	L-150 kV		PT	14,3%
		N-1 Interconnector 400 kV (ES-PT)		14,3%
# 4	Angle difference		PT	10,7%
		N-2 Interconnector 400 kV (ES-PT)		10,7%
# 5	L-220 kV		ES	3,6%
		N-2 400 kV (ES)		3,6%
# 5	L-220 kV		ES	3,6%
		N-1 400 kV (ES)		3,6%
# 5	Loadflow divergence			3,6%
		N-1 Interconnector 400 kV (ES-PT)		3,6%

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

Critical Network Elements and Contingencies ES->PT			Location CNE	Frequency
# 1	Angle difference		PT	28,6%
		N-2 Interconnector 400 kV (ES-PT)		28,6%
# 2	L-400 kV Interconnector		ES-PT	28,6%
		N-2 Interconnector 400 kV (ES-PT)		28,6%
# 3	Computation Failed			25,0%
		Computation Failed		25,0%
# 4	L-220 kV		PT	10,7%
		N-1 Interconnector 400 kV (ES-PT)		10,7%
# 5	L-150 kV		PT	7,1%
		N-1 Interconnector 400 kV (ES-PT)		7,1%

Limiting elements FR-ES

Please 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	Computation Failed			28,6%
		Computation Failed		28,6%
# 2	L-220 kV Interconnector		ES-FR	25,0%
		N-1 400 kV (FR)		21,4%
		N-1 Interconnector 400 kV(ES-FR)		3,6%
# 3	L-220 kV		FR	21,4%
		N-1 400 kV (FR)		14,3%
		N state		3,6%
		N-1 Interconnector 400 kV (ES-FR)		3,6%
# 4	L-220 kV Interconnector		ES-FR	17,9%
		N-1 Interconnector 400 kV (ES-FR)		10,7%
		N-1 220 kV (FR)		7,1%
# 5	L-220 kV		ES	7,1%
		N state		7,1%

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		ES-FR	32,1%
		N-1 Interconnector 400 kV (ES-FR)		17,9%
		N-1 220 kV (FR)		7,1%
		N-1 400 kV (FR)		7,1%
# 2	Computation Failed			28,6%
		Computation Failed		28,6%
# 3	L-400 kV		FR	17,9%
		N-1 1 220 kV (FR)		14,3%
		N-1 Interconnector 400 kV (ES-FR)		3,6%
# 4	L-220 kV		FR	10,7%
		N-1 kV (FR)		10,7%
# 5	L-220 kV		FR	7,1%
		N-1 400 kV (FR)		7,1%