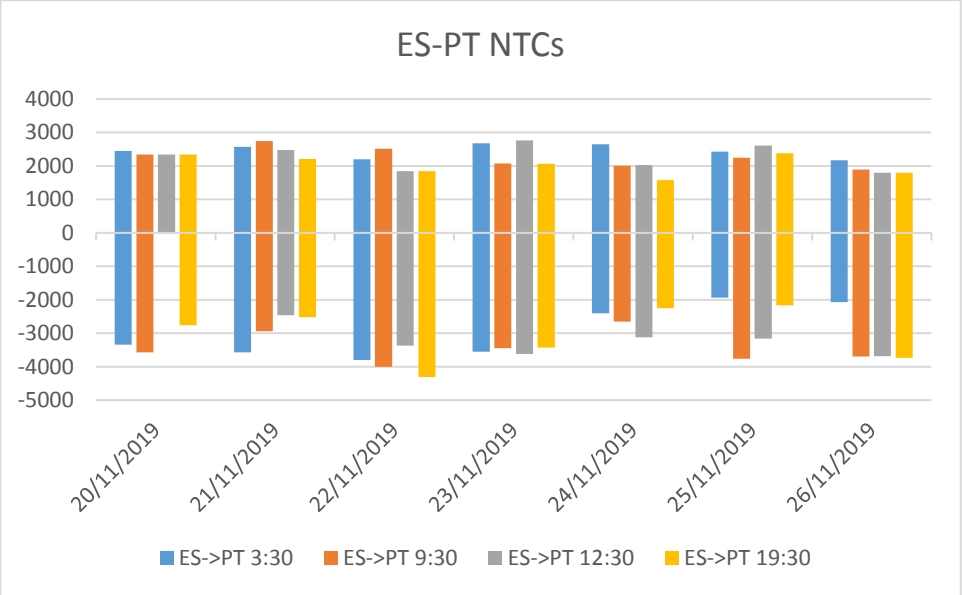
The elements in this report are based on ongoing experimentation with continuous tool improvement. The dates/limiting elements

SWE Capacity Calculation report for Stakeholders

This document reports results of the external parallel run from the 20/11/2019 to the 26/11/2019.

ES-PT NTCs

		20/11/2019		21/11/2019		22/11/2019		23/11/2019		24/11/2019		25/11/2019		26/11/2019	
Oriented Borders	**TS**	**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	2446	3000	2577	3000	2200	3000	2682	3300	2648	3300	2427	3300	2174	3300
	9:30	2340	3200	2745	3200	2520	3200	2078	2600	2010	3300	2250	2600	1890	2600
	12:30	2340	3200	2475	3200	1845	3200	2768	2600	2025	3300	2610	2600	1800	2600
	19:30	2340	3200	2205	3200	1845	3200	2070	2600	1575	2600	2385	2600	1800	2600
PT->ES	3:30	3341	3800	3571	3800	**3800**	3800	3555	3700	2407	3700	1935	3700	2070	3700
	9:30	3571	4000	2943	4000	**4000**	4000	**3450**	3450	2654	3700	3766	3450	3697	3450
	12:30	NA	4000	2461	4000	3375	4000	3622	3450	3126	3700	3163	3450	3690	3450
	19:30	2758	4000	2521	4000	4310	4000	3427	3450	2250	3450	2168	3450	3735	3450



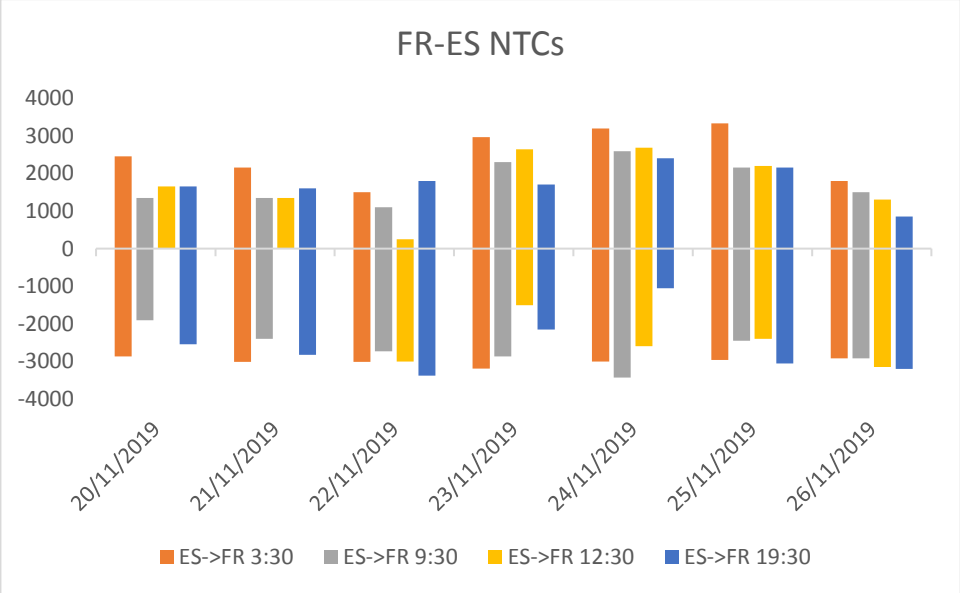
Comments:

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

		20/11/2019		21/11/2019		22/11/2019		23/11/2019		24/11/2019		25/11/2019		26/11/2019	
Oriented Borders	**TS**	**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	2450	2400	2150	2400	1500	2400	2960	3400	3191	3400	3330	3400	1800	3400
	9:30	1350	2000	1350	2000	1100	2000	2300	2200	2590	3400	2150	2200	1500	1900
	12:30	1650	2000	1350	2000	250	2000	2636	2200	2683	3400	2200	2200	1300	1900
	19:30	1650	2000	1600	2000	1800	2000	1700	2200	2400	2200	2150	2200	850	2200
FR->ES	3:30	2868	2500	3006	2500	3006	2700	3191	3000	**3000**	3000	2960	3000	2914	3000
	9:30	1900	2900	2400	2900	2729	3000	2868	3200	3423	3000	2450	2350	2914	3200
	12:30	NA	2900	NA	2900	**3000**	3000	1500	3200	2590	3000	2400	2350	3145	3200
	19:30	2544	2900	2821	3000	3376	3000	2150	3200	1050	3200	3053	3200	**3200**	3200



Comments:

Five computations failed for the FR-ES over this nineteenth week of External parallel run with good results. However, three of them (marked in blue) were replaced by Long Term (LT) values as fallback procedure (weekly values used as LT 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	**GLSK limitation**	**PT**	**28,57%**
	Base case		28,57%
# 1	**L-400 kV Interconnector**	**PT**	**28,57%**
	N-2 Interconnector 400 kV (ES-PT)		28,57%
# 3	**L-400 kV Interconnector**	**ES-PT**	**17,86%**
	N-2 Interconnector 400 kV (ES-PT)		17,86%
# 4	**IT Issue**		**14,29%**
	Long Term Value		10,71%
	IT issue		3,57%
# 5	**Angle constraint**	**PT**	**7,14%**
	N-2 Interconnector 400 kV (ES-PT)		7,14%

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%**
	N-2 Interconnector 400 kV (ES-PT)		100%

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**		**32,14%**
	N-1 Interconnector 400 kV (ES-FR)		14,29%
	N-1 Power plant (ES)		7,14%
	N-1 Power plant (ES)		7,14%
	N-1 Power plant (ES)		3,57%
#2	**L-220 kV Interconnector**	**FR-ES**	**17,86%**
	N-1 Interconnector 400 kV (ES-FR)		10,71%
	N-1 220 kV (FR)		7,14%
#2	**IT issue**		**17,86%**
	Long Term Value		10,71%
	IT issue		7,14%
#4	**L-220 kV**	**ES**	**10,71%**
	Basecase		10,71%
#5	**L-220 kV Interconnector**	**FR-ES**	**7,14%**
	N-1 400 kV (FR)		7,14%
#5	**L-400 kV**	**FR**	**7,14%**
	N-1 400 kV (ES)		3,57%
	N-1 220 kV (FR)		3,57%
#5	**L-400 kV**	**FR**	**7,14%**
	N-1 Interconnector 400 kV (ES-FR)		3,57%
	N-1 400 kV (ES)		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 Interconnector**	**ES-FR**	**39,29%**
	N-1 Interconnector 400 kV (ES-FR)		28,57%
	N-1 220 kV (FR)		10,71%
#2	**L-220 kV**	**ES**	**28,57%**
	N-1 Interconnector 400 kV (ES-FR)		21,43%
	N-2 400 kV (ES)		7,14%
#3	**L-400 kV**	**FR**	**10,71%**
	Basecase		10,71%
#3	**L-220 kV**	**ES**	**10,71%**
	N-2 400 kV (ES)		10,71%
#5	**Loadflow divergence**		**7,14%**
	N-1 Power plant (ES)		3,57%
	N-1 Power plant (FR)		3,57%