

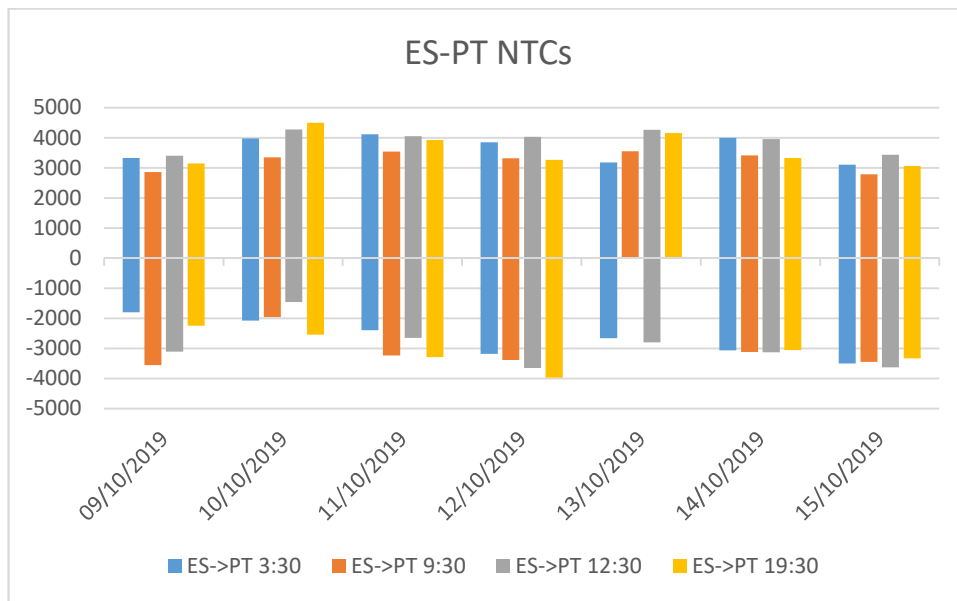
# SWE Capacity Calculation report for Stakeholders

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 9/10/2019 to the 15/10/2019.

## PT-ES NTCs

		09/10/2019		10/10/2019		11/10/2019		12/10/2019		13/10/2019		14/10/2019		15/10/2019	
		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	3334	2500	3983	2500	4119	2500	3856	3300	3181	3300	4000	3300	3106	3100
	9:30	2863	2900	3352	2400	3539	2900	3319	3600	3551	3300	3420	3100	2787	3100
	12:30	3402	2900	4275	2400	4050	2900	4036	3600	4261	3300	3960	3100	3438	3100
	19:30	3150	2900	4500	2900	3924	3100	3266	3600	4162	3600	3330	3100	3068	3400
PT->ES	3:30	1800	3700	2070	3700	2388	3700	3179	4000	2655	4000	3060	4000	3494	3600
	9:30	3552	3000	1959	3000	3231	3000	3378	2900	NA	4000	3119	2900	3445	2900
	12:30	3107	3000	1453	3000	2650	3000	3645	2900	2790	4000	3129	2900	3622	2900
	19:30	2238	3000	2541	3000	3283	3000	3960	2900	NA	2900	3053	2900	3322	2900



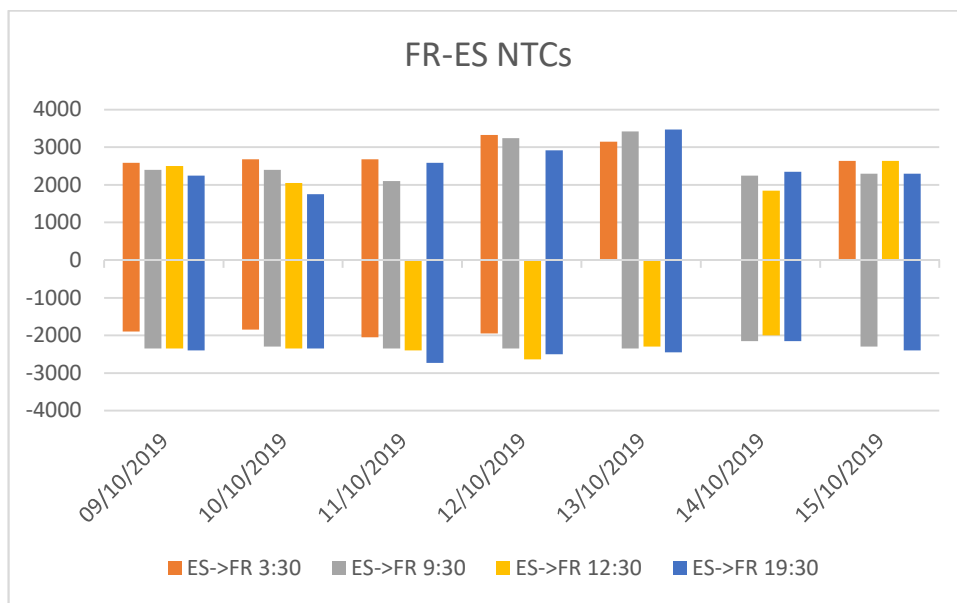
### Comments:

Only two computations failed for the PT-ES border over this thirteenth 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

		09/10/2019		10/10/2019		11/10/2019		12/10/2019		13/10/2019		14/10/2019		15/10/2019	
		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	2590	2500	2683	2500	2683	2500	3330	3000	3145	3000	NA	3000	2636	2600
	9:30	2400	2500	2400	2500	2100	2500	3238	2700	3423	3000	2250	2500	2300	2500
	12:30	2498	2500	2050	2500	NA	2500	NA	2700	NA	3000	1850	2500	2636	2500
	19:30	2250	2500	1750	2500	2590	2650	2914	2450	3469	2450	2350	2500	2300	2500
FR->ES	3:30	1900	1700	1850	1700	2050	1700	1950	1700	NA	1700	NA	1700	NA	1700
	9:30	2350	2000	2300	2000	2350	2000	2350	1800	2350	1700	2150	2100	2300	2100
	12:30	2350	2000	2350	2000	2400	2000	2636	1800	2300	1700	2000	2100	NA	2100
	19:30	2400	2000	2350	2000	2729	2200	2498	2300	2450	2300	2150	2100	2400	2100



### Comments:

Only eight computations failed for the ES-FR border over this thirteenth week of external parallel run. The reasons of the computations failures are under investigation and some of them were corrected.

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	<b>L-400 kV</b>	ES-PT	<b>28,57%</b>
	N-2 400 kV (ES-PT)		28,57%
#2	<b>Angle constraint</b>	PT	<b>25,00%</b>
	N-2 400 kV (ES-PT)		25,00%
#2	<b>L-220 kV</b>	ES	<b>25,00%</b>
	N-2 400 kV		25,00%
#4	<b>L-400 kV</b>	PT	<b>10,71%</b>
	N-2 400 kV (ES-PT)		10,71%
#5	<b>AT 400/220 kV</b>	ES	<b>3,57%</b>
	N-1 AT 400/220 kV		3,57%
#5	<b>Error</b>		<b>3,57%</b>
			3,57%
#5	<b>L-220 kV</b>	ES	<b>3,57%</b>
	N-1 AT 400/220 kV		3,57%

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

	Limiting CNEC	Location CNE	Frequency
#1	<b>Angle constraint</b>	PT	<b>71,43%</b>
	N-2 400 kV (ES-PT)		71,43%
#2	<b>L-400 kV</b>	ES-PT	<b>10,71%</b>
	N-2 400 kV (ES-PT)		10,71%
#3	<b>GLSK limitation</b>		<b>7,14%</b>
	Base Case		7,14%
#4	<b>L-220 kV</b>	PT	<b>3,57%</b>
	N-1 400 kV		3,57%
#4	<b>L-220 kV</b>	ES	<b>3,57%</b>
	N-2 400 kV		3,57%
#4	<b>L-220 kV</b>	PT-ES	<b>3,57%</b>
	N-1 400 kV		3,57%

## 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
<b>#1</b>	<b>L-220 kV</b>	<b>FR-ES</b>	<b>50,00%</b>
	N-1 400 kV		39,82%
	N-1 400 kV		10,71%
<b>#2</b>	<b>L-400 kV</b>	<b>FR</b>	<b>25,00%</b>
	N-1 400 kV		21,43%
	N-1 Power plant		3,57%
<b>#3</b>	<b>IT Issue</b>		<b>14,29%</b>
	IT Issue		14,29%
<b>#4</b>	<b>L-220 kV</b>	<b>ES</b>	<b>7,14%</b>
	Basecase		7,14%
<b>#5</b>	<b>L-220 kV</b>	<b>FR-ES</b>	<b>3,57%</b>
	N-1 220 kV		3,57%

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

Limiting CNEC		Location CNE	Frequency
<b>#1</b>	<b>L-400 kV</b>	<b>FR</b>	<b>42,86%</b>
	N-1 220 kV		32,14%
	N-1 400 kV		10,71%
<b>#2</b>	<b>L-220 kV</b>	<b>FR-ES</b>	<b>17,86%</b>
	N-1 HVDC		7,14%
	N-1 400 kV		3,57%
	N-1 400 kV		3,57%
	N-1 220 kV		3,57%
<b>#3</b>	<b>IT Issue</b>		<b>14,29%</b>
	IT Issue		14,29%
<b>#4</b>	<b>L-220 kV</b>	<b>FR-ES</b>	<b>10,71%</b>
	N-1 220 kV		10,71%
<b>#5</b>	<b>L-400 kV</b>	<b>FR-ES</b>	<b>7,14%</b>
	N-1 220 kV		7,14%