

# Documentation of the CWE FB MC solution as basis for the formal approval-request

## Annex 15.29: Implementation of the French External Constraint for the winter 2018-2019

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### Related documents

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### Attachments


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## 1 Implementation of the French External Constraint for the winter 2018-2019

For the winter 2018-2019 until 30.04.2019, RTE will apply an import constraint in case network security issues are foreseen in Switzerland for limited hours. Swissgrid may request the application on daily basis during the verification phase of the CWE day-ahead flow based capacity calculation process.

The maximal CWE French import is determined as being the highest import from CWE to France feasible in the FB domain resulting from the capacity calculation process.

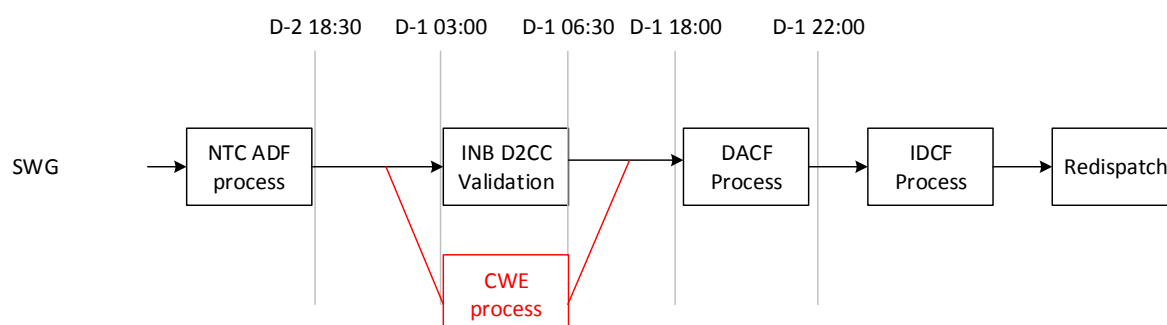
The maximum achievable French import can be reduced by a value of maximum 1000MW. For example if the maximal CWE French import achievable in the FB domain is 6GW, the external constraint would be set between 5GW and 6GW.

This maximal reduction of the CWE French import of a maximum amount of 1000 MW is allowed under the following conditions:

- the measure is applied when the CWE French import is expected to be higher than 6.5 GW and Belgium is expected to also import at the same time
- the external constraint can only be applied during the following period: hours between 01:00 – 05:00 and the whole Sunday
- the measure is limited to 100 hours and once these hours are **“used”, no further reduction is allowed**
- the measure is limited to the situations when all other remedial actions available at Swissgrid have been fully used.
- RTE, in case of operational issues, can reject the reduction request made by Swissgrid without an appeal.

## 2 General overview on congestion management processes and the timing of the French External Constraint

The following graph shows the congestion management processes in Swissgrid and the integration of the new CWE French Import reduction process (red) which is further detailed in the following chapter.



NTC ADF process:

A – Austria

D- Deutschland (Germany)

F – France

In this process the NTC in the direction from Austria, France and Germany to Switzerland is determined based on predefined values for different scenarios taking into account high exchanges within CWE (especially from Germany towards France).

INB D2CC Validation:

The maximum northern Italian import calculated by RSC is evaluated by Swissgrid in terms of feasibility. If required, reductions of the Italian import are applied. Such reductions can stem from additional information, not known or partly during the capacity calculation process (e.g. deviations from the forecast, unplanned outages, ..).

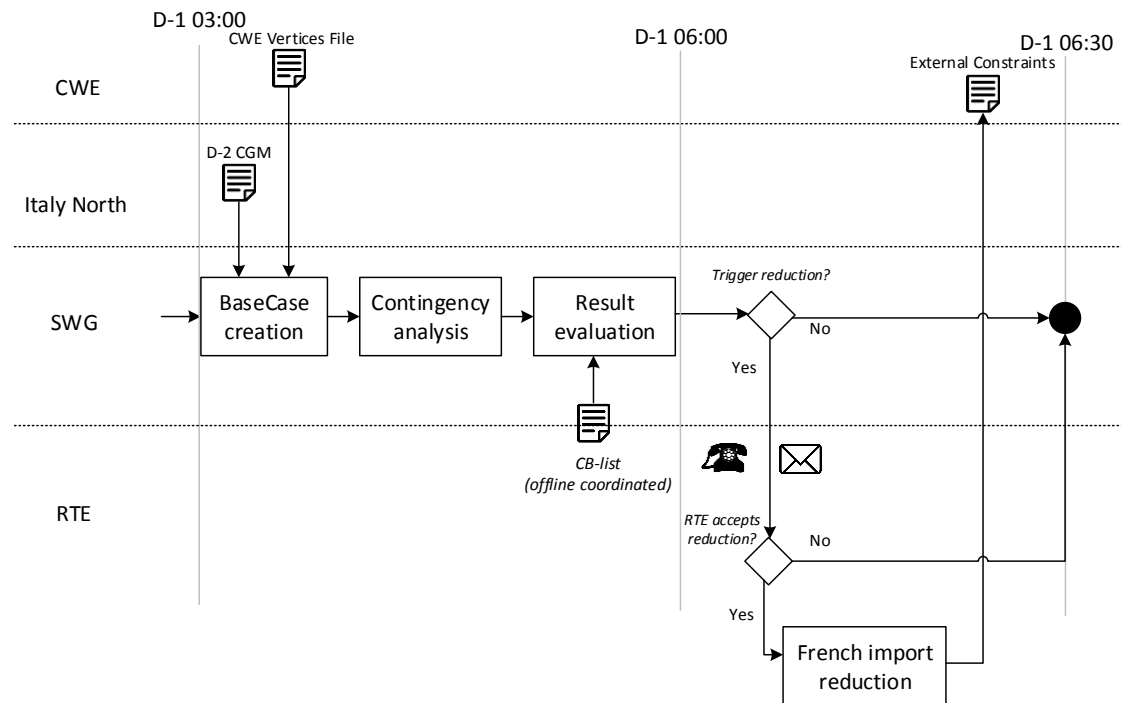
#### DACF/IDCF process:

In this process Swissgrid evaluates the grid security in D-1/ Intraday timeframe with the help of TSCNET. In case of detected congestions, a coordination is performed with neighbouring TSOs. Here mainly cross-border or internal topological actions are coordinated and prepared for implementation in realtime, as well as tapping of PSTs or – in case necessary – Redispatch can be anticipated (also large scale emergency redispatch within the TSCNet area – MRA – is coordinated here).

### **3    Operational Procedure to reduce the French import in the CWE FB process**

The aim of this chapter is to describe the operational process between RTE and Swissgrid to reduce the French import within the CWE FB process in case security issues were detected in Switzerland on agreed monitored elements by Swissgrid.

The overall process is depicted in the following figure:



## 1. BaseCase creation

The process starts at 03:00 am in D-1 with the creation of the BaseCase CGM to be studied. The basis will be the final D-2 CGM for TS 03:30 obtained from the Italy North D-2 CC process. The following adaptations will be implemented:

- Adjust the schedules on the borders FR-CH, DE-CH and AT-CH to the D-2 NTC values by performing bilateral shifts among the particular countries  
(done by Swissgrid Tool automatically)
- Set the schedule on the CH-IT to 50%<sup>1</sup> of the NTC CH-IT by performing a bilateral shift between Italy and Switzerland  
(done by Swissgrid Tool automatically)

<sup>1</sup> During the night, the schedules towards Italy are usually only at half of the available NTC (low demand Italy).

The vertex table (which displays the potential CWE FBMC results) is downloaded by Swissgrid from the CWE System at the end of the CWE FB intermediate computation.

After that a CWE FB vertex that meets the following conditions is selected:

- France imports at least 6500 MW
- Belgium is importing

If several vertices fulfill these requirements, the one with the highest sum of the CWE NP BE+FR is selected. This one is implemented in the BaseCase CGM by taking into account the reference schedules already implemented in the model.  
(done by Swissgrid Tool automatically)

## 2. Contingency Analysis and results evaluation

Swissgrid performs a contingency analysis on the BaseCase CGM created in the previous step. The outage list will be the whole Swiss system as well as the outages defined for the D2CC process in the Italy North region. The monitoring list consists of the Critical Branches (CB) agreed between Swissgrid and RTE beforehand.

The following results can occur:

- None of the predefined CBs is violated → process is finished
- If at least one predefined CBs is violated, Swissgrid applies the agreed Remedial Actions to solve the constraints:
  - Violations can be solved → process is finished
  - Violations cannot be solved → Swissgrid triggers the reduction of the French import

The reduction to be sent is selected with the help of the following table based on the remaining violations on the CB and the sum of the CWE net positions of FR and BE.

<b>Step</b>	<b>BE + FR [MW] (CWE)</b>	<b>N-1 &lt; 105%</b>	<b>N-1 &gt; 105 %</b>
0	-7000 >	-	-
1	-8000 ... -7000	-	500
2	-9000 ... -8000	-	750
3	< -9000	-	1000

Table 1: Reduction of the French import within the CWE process in function of the sum of the CWE net positions BE and FR.

### 3. Communication of the French import reduction

If it is decided to trigger the French import reduction process, Swissgrid notifies RTE by phone and sends the required reduction by mail until 06:00 am. The email will also be forwarded to TransnetBW for information only. Furthermore, the following information are provided:

- Hours when the reduction is needed within the timeframe (01:00-05:00)
- CB that triggered the process as well as its loading after Remedial Action optimization
- Implemented Remedial Actions to solve the constraint as well as other implemented solutions for the D day for this issue (NTC on DE-CH border, decrease of north Italian total TTC, etc.) The remedial actions implemented will be reassessed during DACF as well as IDCF processes.

### 4. French import reduction



Partial acceptance is possible. This means, that RTE allows to only apply the EC on some of the hours proposed by Swissgrid. If RTE accepts the proposed reduction of the French import by Swissgrid (partial or full acceptance), RTE translates this value in an External Constraint and submits it to the CWE FB process until 07:45 am. In case the reduction is completely rejected for all hours, the process is finished.

RTE will give Swissgrid a feedback via mail on the hours where the reduction is applied or not applied.