

Limit/Imbalance Violation E-Mail and Report - Manual

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Version: 2

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Objective

This manual explains the different contents of the automated e-mail “**[INFO] Imbalance/Limit violations of the Balance Group 12X1234567891011 on the DD.MM.YYYY**” which is sent after Post-Scheduling Adjustment Process in the event of limit violations and/or violations of the plausibility values.

Background

Graduated limits were introduced on the open trading positions between the day-ahead process and the cut-off time intraday and/or the end of post-scheduling with the new balance group contract which became effective 1st of November 2016. The position limits are chosen by the balance group managers. The current limits can be consulted in the [customer portal](#). In the same portal the balance group manager can apply for a different limit.

The following 3 limits do apply:

1. **Limit 1 «DA to D-2h»:**

This limit applies to the open position in the respective quarter of an hour after the conclusion of the day-ahead process («DA») at 15:30 and after applying the market rules up to two hours before the physical delivery («D»).

2. **Limit 2 «D-2h to COT ID»:**

This limit applies to the open position in the respective quarter of an hour after two hours before the physical delivery («D») up to the cut-off time («COT») for internal trades in the intraday (D-15 Min).

3. **Limit 3 «COT ID and PS»:**

This limit applies to the open position in the respective quarter of an hour after the cut-off time for internal trades in the intraday and after the application of the intraday market rules.

For balance groups without metering points, this limit must be adhered to until completion of the Post-Scheduling Adjustment Process. For balance groups with metering points limit 3 only applies at COT ID¹.



For further information, please consult clause 2.2 in Appendix 1: General balance group regulations on our [Website](#).

¹ Within the scope of the schedule messages in the Post-Scheduling Adjustment Process of Balance groups with metering points, Swissgrid checks the plausibility of the change in open position compared with the consumption and the production of the balance group.

Validation of schedule documents

A distinction must be made between the different types of balance groups, see table below.

In the first step the *PositionTPS* is calculated:

PositionTPS = sum total of all time series from the TPS schedule document received from the balance group (BG) per time interval (including CONS for BG with metering points). If an accepted and not yet matched time series is adjusted by Swissgrid (manual intervention, copy from counterpart schedule time series or application of a market rule), the amended time series applies.

Positive value = surplus/long

Negative value = deficit/short

In a second step the *PositionTPS* is validated against the valid plausibility values (only for type 1 and 2) and valid limits. The limit violations arise from the deviation from the described band:

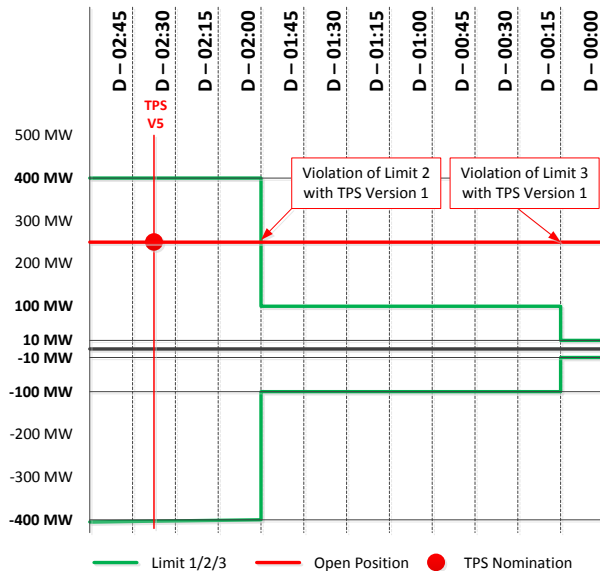
1	BG with metering points in CH	$-Limit1 - PROD_{Max} \leq PositionTPS \leq Limit1 - PROD_{Min}$ $-Limit2 - PROD_{Max} \leq PositionTPS \leq Limit2 - PROD_{Min}$ $-Limit3 - PROD_{Max} \leq PositionTPS \leq Limit3 - PROD_{Min}$
2	BG without metering points and with powerplant and/or pump shares in CH	$-Limit1 - PROD_{Max} \leq PositionTPS \leq Limit1 - PROD_{Min}$ $-Limit2 - PROD_{Max} \leq PositionTPS \leq Limit2 - PROD_{Min}$ $-Limit3 \leq PositionTPS \leq Limit3$
3	BG without metering points in CH	$-Limit1 \leq PositionTPS \leq Limit1$ $-Limit2 \leq PositionTPS \leq Limit2$ $-Limit3 \leq PositionTPS \leq Limit3$



The validation is performed continuously and is not limited to the time of reception of a TPS schedule document.

The examples below illustrate this. The situation is shown for a specific quarter hour. On the horizontal axis, the lead time to physical delivery “D” for the quarter hour is shown. On the vertical axis, the open position in MW is shown. The BG in the example has chosen the limits Limit 1 = 400 MW, Limit 2 = 100 MW and Limit 3 = 10 MW.

Example 1



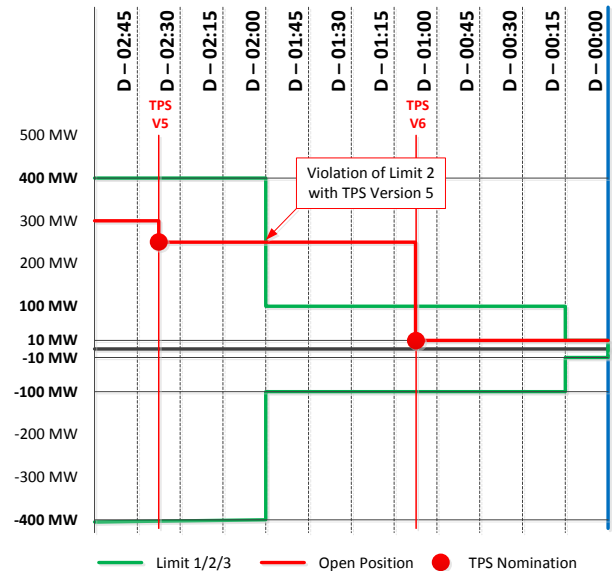
In Example 1, the BG sends TPS Version 1 more than two hours before physical delivery for the relevant quarter hour with an open position of 250 MW. At this this point in time the 250 MW is below the applicable limit 1 and thus no violation occurs.

At D-02:00 limit 2 applies and no new version of TPS has been received. Limit 2 is applied which means an exceedance of 150 MW at this point of time.

At D-00:15 limit 3 applies and still no new version of TPS has been received. Limit 3 is applied which means an exceedance of 240 MW at this point of time.

! One single nomination of a high open position might result in a violation of all three limits.

Example 2



In Example 2, the BG has a current open position of 300 MW for the corresponding quarter hour.

TPS Version 5 is received more than two hours before physical delivery for the relevant quarter hour with an open position of 250 MW. At this this point in time the 250 MW is below the applicable limit 1 and thus no violation occurs.

At D-02:00 limit 2 applies and no new version of TPS has been received. Limit 2 is applied which means an exceedance of 150 MW at this point of time.

At D-01:07 TPS Version 6 is received with an open position of 10 MW for the corresponding quarter hour. 10 MW is lower than limit 2, so no new violation occurs.

At D-00:15 limit 3 applies. As the open position is exactly equal to limit 3 (10 MW) no violation for this quarter hour is registered.

! Although the TPS schedules adhered to the limits at the time of nomination, limits can be violated when the open position is not lowered.

Explanation of the E-mail content

Von: scheduling.day-ahead.fo@chtso.ch
 An: [REDACTED]
 Cc:
 Betreff: [REDACTED]
 Nachricht: 20170303_LimitViolation_Daily [REDACTED] 20170718101328.xlsx (42 KB)

Gesendet: Di 18.07.2017 10:21

Dear Balance Group Responsible

You are receiving this email because your balance group exceeded one or several of the limits agreed upon in the Balance Group Contract. For the scheduling day **03.03.2017** we noticed that your balance group [REDACTED] exceeded the following limit(s) based on the valid [REDACTED] and existing scheduling data:

1	2	3
Valid limits: Limit 1 [MW] 200 Limit 2 [MW] 50 Limit 3 [MW] 10	Valid plausibility values: Prod Min[MW] 20 Prod Max[MW] 300 CONS Min[MW] 50 CONS Max[MW] 300	Plausibility of CONS violated: yes (see attachment)

Time	CONS	L1	L2	L3	Time	CONS	L1	L2	L3	Time	CONS	L1	L2	L3	Time	CONS	L1	L2	L3
00:00		20	170	210	06:00	40	0	0		12:00	0	0	0		18:00	0	0	0	
00:15	-100	-250	-290		06:15	-120	0	0		12:15	0	0	0		18:15	0	0	0	
00:30	0	0	0		06:30	0	0	0		12:30	0	0	0		18:30	0	0	0	
00:45	0	0	0		06:45	0	0	0		12:45	0	0	0		18:45	0	0	0	
01:00	25	175	215		07:00	0	0	0		13:00	0	0	0		19:00	0	0	0	
01:15	-105	-255	-295		07:15	0	0	0		13:15	0	0	0		19:15	0	0	0	
01:30	0	0	0		07:30	0	0	0		13:30	0	0	0		19:30	0	0	0	
01:45	0	0	0		07:45	0	0	0		13:45	0	0	0		19:45	0	0	0	
02:00	0	20	60		08:00	0	0	0		14:00	0	0	0		20:00	0	0	0	
02:15	0	-100	-140		08:15	0	0	0		14:15	0	0	0		20:15	0	0	0	
02:30	0	0	0		08:30	0	0	0		14:30	0	0	0		20:30	0	0	0	
02:45	0	0	0		08:45	0	0	0		14:45	0	0	0		20:45	0	0	0	
03:00	0	30	70		09:00	0	0	0		15:00	0	0	0		21:00	0	0	0	
03:15	0	-110	-150		09:15	0	0	0		15:15	0	0	0		21:15	0	0	0	
03:30	0	0	0		09:30	0	0	0		15:30	0	0	0		21:30	0	0	0	
03:45	0	0	0		09:45	0	0	0		15:45	0	0	0		21:45	0	0	0	
04:00	0	0	0		10:00	0	0	0		16:00	50	0	0	0	22:00	0	0	0	
04:15	0	0	0		10:15	0	0	0		16:15	50	0	0	0	22:15	0	0	0	
04:30	0	0	0		10:30	0	0	0		16:30	50	0	0	0	22:30	0	0	0	
04:45	0	0	0		10:45	0	0	0		16:45	50	0	0	0	22:45	0	0	0	

4

- In this area the limits valid at the scheduling day mentioned in the e-mail are shown.
- In this area the plausibility values valid at the scheduling day mentioned in the e-mail are shown. The plausibility values are determined according to clause 2.1 of the General balance group regulations. This area is only shown for BG with metering points or for BG with powerplant and/or pump shares in CH.
- In this area it is mentioned if there has been a violation of the plausibility values with the consumption time series. The details can be found in the CONS column and in the attached excel document. This area is only shown for BG with metering points.
- In this area the highest limit violation of the scheduling day for each time interval is stated. For BGs with metering points if a CONS violation occurs, the highest value is highlighted in red in the column CONS. For BGs without metering points "IMB" is listed points (not shown in the example above). The values in the table have been rounded.

IMB: Is the Imbalance of the TPS message after Cut-Off-Time Post-Scheduling Adjustment (not shown in the example above).

CONS: The highest CONS violation

L1: Is the highest violation of Limit 1 in the corresponding time interval per schedule day.

L2: Is the highest violation of Limit 2 in the corresponding time interval per schedule day.

L3: Is the highest violation of Limit 3 in the corresponding time interval per schedule day.

- 5 An excel document is attached which contains all details of the limit violations. For BG with metering points also violations of the plausibility values with the consumption time series are listed.

Explanation of the Excel-Report content

The excel report contains two sheets. The first sheet "LimitViolations" describes the details of the exceeded limits. The second sheet "ConsumtionViolations" describes the violations of the plausibility values of the consumption time series. The first sheet will be empty if no limits exceedance for the scheduling day mentioned occurred. The second sheet will be empty if no exceedance of the cons time series for the scheduling day mentioned occurred or if the BG has no metering points.

The first sheet has 3 sections. Each section lists the details for the concerned limit:

	A	B	C	D	E	F	G
1	Creation Date	04.11.2016 09:39:30					
2	User	x					
3	Report Interval Start	20.10.2016 00:00:00					
4	Report Interval End	21.10.2016 00:00:00					
5	Content	BG 12X1234567891011					
6							
7	Details of the violations:						
8	Limit 1:						
9	TPSVersion	Intervall	IncomingTimeStamp	Reconciliation	Time of Violation	OpenPos [MW]	Violation L1 [MW]
10	1	00:00	19.10.2016 12:31	NotModified	19.10.2016 15:30	200	20
11	1	00:15	19.10.2016 12:31	NotModified	19.10.2016 15:30	-600	-100
12	2	01:00	19.10.2016 19:20	Modified	19.10.2016 19:20	205	25
13	2	01:15	19.10.2016 19:20	Modified	19.10.2016 19:20	-605	-105
14	1	05:00	19.10.2016 12:31	NotModified	19.10.2016 15:30	215	35
15	1	05:15	19.10.2016 12:31	NotModified	19.10.2016 15:30	-615	-115
16	1	06:00	19.10.2016 12:31	NotModified	19.10.2016 15:30	220	40
17	1	06:15	19.10.2016 12:31	NotModified	19.10.2016 15:30	-620	-120
18							
19	Limit 2:						
20	TPSVersion	Intervall	IncomingTimeStamp	Reconciliation	Time of Violation	OpenPos [MW]	Violation L2 [MW]
21	2	00:00	19.10.2016 19:20	Modified	19.10.2016 22:00	200	170
22	2	00:15	19.10.2016 19:20	Modified	19.10.2016 22:15	-600	-250
23	2	01:00	19.10.2016 19:20	Modified	19.10.2016 23:00	205	175
24	2	01:15	19.10.2016 19:20	Modified	19.10.2016 23:15	-605	-255
25	2	02:00	19.10.2016 19:20	Modified	20.10.2016 00:00	50	20
26	2	02:15	19.10.2016 19:20	Modified	20.10.2016 00:15	-450	-100
27	3	03:00	20.10.2016 01:01	NotModified	20.10.2016 01:01	60	30
28	3	03:15	20.10.2016 01:01	NotModified	20.10.2016 01:15	-460	-110
29	3	05:00	20.10.2016 01:01	NotModified	20.10.2016 03:00	215	185
30	3	05:15	20.10.2016 01:01	NotModified	20.10.2016 03:15	-615	-265
31							
32	Limit 3:						
33	TPSVersion	Intervall	IncomingTimeStamp	Reconciliation	Time of Violation	OpenPos [MW]	Violation L3 [MW]
34	2	00:00	19.10.2016 19:20	Modified	19.10.2016 23:45	200	210
35	2	00:15	19.10.2016 19:20	Modified	20.10.2016 00:00	-600	-290
36	2	01:00	19.10.2016 19:20	Modified	20.10.2016 00:45	205	215
37	2	01:15	19.10.2016 19:20	Modified	20.10.2016 01:00	-605	-295
38	3	02:00	20.10.2016 01:01	NotModified	20.10.2016 01:45	50	60
39	3	02:15	20.10.2016 01:01	NotModified	20.10.2016 02:00	-450	-140
40	3	03:00	20.10.2016 01:01	NotModified	20.10.2016 02:45	60	70
41	3	03:15	20.10.2016 01:01	NotModified	20.10.2016 03:00	-460	-150
42							
43							

TPSVersion

The row TPSVersion lists the version of the TPS with which the limit has been exceeded.

Intervall

The row Intervall lists the interval which is concerned from the limit violation.

IncomingTimeStamp	The IncomingTimeStamp lists the time when the TPS schedule document has been received by Swissgrid or the time when a reconciliation has been applied by Swissgrid (see Reconciliation below).
Reconciliation	This row has either the value "NotModified" or "Modified". "NotModified" means that the limit has been exceeded with the values sent by the balance group without any reconciliation (manual intervention, copy from counterpart schedule time series or application of a market rule). "Modified" means that there has been a reconciliation by the scheduling system of Swissgrid. In this case time IncomingTimeStamp is equal to the time of application of the reconciliation.
OpenPos [MW]	OpenPos lists the open position for the corresponding time interval.
Violation L1/L2/L3 [MW]	Is the value of the exceedance over the limit.

The second sheet has 2 sections. The first section lists the intervals of the CONS time series which were below CONS_Min. The second section lists the intervals of the CONS time series which were over CONS_Max.

	A	B	C	D	E	F	
CONS_MIN	1	CONS Plausibility violation:					
	2	TPSVersion	Intervall	IncomingTimeStamp	CONS [MW]	CONS_Min [MW]	Violation CONS_Min [MW]
	3	3	02:00	20.10.2016 01:01:00	10	50	-40
	4	3	02:15	20.10.2016 01:01:00	10	50	-40
	5	3	02:30	20.10.2016 01:01:00	10	50	-40
	6	3	02:45	20.10.2016 01:01:00	10	50	-40
CONS_MAX	7						
	8	TPSVersion	Intervall	IncomingTimeStamp	CONS [MW]	CONS_Max [MW]	Violation CONS_Max [MW]
	9	1	01:00	19.10.2016 12:31:00	325	300	25
	10	1	01:15	19.10.2016 12:31:00	325	300	25
	11	1	01:30	19.10.2016 12:31:00	325	300	25
	12	1	01:45	19.10.2016 12:31:00	325	300	25
13							
14							

TPSVersion	The row TPSVersion lists the version of the TPS with which the CONS time series exceeded the corresponding plausibility value.
Intervall	The row Intervall lists the interval which is concerned from the exceedance of the plausibility value.
IncomingTimeStamp	The IncomingTimeStamp lists the time when the TPS schedule document has been received by Swissgrid.
CONS [MW]	This row lists the actual value of the CONS time series which has been received from the balance group for the mentioned interval.
CONS_Min [MW]	This row lists the actual valid plausibility value for this scheduling day for the balance group.

Violation CONS_Min [MW]	This row lists the amount of violation under the plausibility value CONS_Min.
CONS_Max [MW]	This row lists the actual valid plausibility value for this scheduling day for the balance group.
Violation CONS_Max [MW]	This row lists the amount of violation over the plausibility value CONS_Max.