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www.swissgrid.ch**Date** Version 2nd July 2018**Author** Thomas Eckert**Distribution list**

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Content

1.	Introduction	4
2.	Reference Documents	4
3.	Test procedure	4
4.	General Information	5
4.1.	Contact Details	5
4.2.	Basic principles of the test scenarios	5
4.3.	Glossary	6
4.4.	Messages using ESS v2r3	6
4.5.	Status Request	7
5.	Testcases on DNV-GL test platform	8
5.1.	Formal test for TPS schedule messages	8
5.1.1.	Long-Term, formal test description	9
5.1.1.1.	Long-Term, formal test sequence diagram	10
5.1.2.	Day-Ahead, formal test description	11
5.1.2.1.	Day-Ahead, formal test sequence diagram	12
5.1.3.	Intra-Day, formal test description	13
5.1.3.1.	Intra-Day, formal test sequence diagram	14
5.1.4.	Post scheduling adjustment, formal test description	15
5.1.4.1.	Post scheduling adjustment, formal test sequence diagram	16
5.2.	Continuous matching process	17
5.2.1.	Matching process Long-Term, test description	18
5.2.1.1.	Matching process Long-Term, sequence diagram	19
5.2.2.	Matching process Day-Ahead, test description	20
5.2.2.1.	Matching process Day-Ahead, sequence diagram	22
5.2.3.	Matching process Intra-Day, test description	23
5.2.3.1.	Matching process Intra-Day, sequence diagram	25
5.2.4.	Matching process Intra-Day, updated Intra-Day capacity, test description	26
5.2.4.1.	Matching process Intra-Day, updated Intra-Day capacity, sequence diagram	28
5.2.5.	Matching process Post scheduling adjustment, test description	29
5.2.5.1.	Matching process Post scheduling adjustment, sequence diagram	31
5.3.	Continuous matching process / negative	32
5.3.1.	Matching process Long-Term, wrong CAI & CCT, test description	33
5.3.1.1.	Matching process Long-Term, wrong CAI & CCT, sequence diagram	35
5.3.2.	Matching process Day-ahead, adjusted Long-Term time series, test description	36
5.3.2.1.	Matching process Day-ahead, adjusted Long-Term time series, sequence diagram	38
5.3.3.	Matching process Intra-day, capacity violation, test description	39
5.3.3.1.	Matching process Intra-day, capacity violation, sequence diagram	42
5.3.4.	Matching process Intra-Day, Intra-Day timing (internal trade), test description	43
5.3.4.1.	Matching process Intra-Day, Intra-Day timing (internal trade), sequence diagram	45
5.3.5.	Matching process PSA, adjustment of external time series, test description	46
5.3.5.1.	Matching process PSA, adjustment of external time series, sequence diagram	48
5.4.	Additional negative tests	49

5.4.1. Matching process Day-ahead, imposed time series procedure, test description	49
5.4.1.1. Matching process Day-ahead, imposed time series procedure, sequence diagram	50
6. Optional tests	51
6.1. Status request procedure, test description	51
6.1.1. Status request procedure, sequence diagram	53
7. Communication and configuration tests (schedule operation)	54
7.1. General	54
7.2. Communication and configuration testing of the e-mail connection	54
7.3. Communication test of FTP link	55

1. Introduction

This document describes the tests to be performed successfully by all Balance Responsible Parties (BRP) before productive scheduling using the Swissgrid Schedule Management System can be released. It also describes the requirements for test systems operated by Swissgrid and DNV-GL.

2. Reference Documents

- Swissgrid: Technical balance group regulations Version 3.0 (part of the balance group contract)
- ENTSO-E references on website <https://www.entsoe.eu/publications/electronic-data-interchange-edilibrary/Pages/default.aspx>
 - IEC 62325-451-2: Scheduling business process and contextual model for European market
 - ENTSO-E: Scheduling System ESS Version 2 Release 3
 - Scheduling System ESS Implementation Guide V2R3
 - IEC 62325451-5: Problem statement and status request business processes, contextual and assembly models for European market
 - ENTSO-E: Status Request Document (ESRD) V2R0
 - Common information model (CIM) European style market profile
 - ENTSO-E: Core Components (ECC) and ENTSO-E Code List (ECL)
- VSE: Glossary for the rules governing the Swiss electricity market

3. Test procedure

ESS formal and process tests (schedule operation):

The tests are conducted via the ESS test centre in collaboration with our test partner DNV-GL. Here the formal correctness of the structure of TPS schedule messages is tested in accordance with ESS and the «Technical Balance Group Regulations». At the same time it is checked if the BRP evaluates correctly the XML messages issued by Swissgrid and their correct implementation within the defined balance group regulations.

These tests must be successfully conducted once by every BRP or the person designated by him.

Communication and configuration tests using the Swissgrid Schedule Management System:

These tests are used to check the communication channels (standard and standby connection) between the BRP and Swissgrid Schedule Management System, as well as to verify correct system configuration (EIC code of the BRP, schedule relationships etc.).

These tests must be performed successfully once for each BRP (Balance Responsible Party) and for each communication channel.

4. General Information

4.1. Contact Details

- Please e-mail DNV-GL if you have any questions on operating the ESS test centre. The contact is possible by using the contact form at <https://dnvgl-test.com> or by e-mail to edi.helpdesk@dnvgl.com
- For all other questions regarding the test scenarios, please e-mail bg-registration@swissgrid.ch
- The tests are registered and performed via <https://dnvgl-test.com>
- Schedule messages are e-mailed for both test types to swissgrid-bg-test@dnvgl.com

4.2. Basic principles of the test scenarios

- **Important:** The test system checks the sender's e-mail address in order to assign a specific test scenario to the schedule message!
- **10XCH-SWISSGRIDC** must be used as the test system's receiver EIC code
- Any EIC codes can be used for the fictitious trading partners for internal trades. They are not checked by the ESS formal test platform.
For external trades the EIC codes for trading partners and neighbouring control areas have to be according the rights document sent by DNV-GL. The plausibility (number of characters, test character) must be guaranteed in any case.
- Times in schedule messages must be specified in UTC (see «Technical Balance Group Regulations»). Times for test scenarios are specified in CET/CEST
- Important for certifying the parties is an agreement on the way the XML-documents must be created and verified. For ESS V2R3 the references are to a DTD
- For testing purposes the timing which is stated in each test case will be skipped. Therefore the sending of messages from the BRP to the DNV-GL test platform will not be checked on timing for Long-Term, Day-Ahead, Intra-Day and post scheduling adjustment notification times.
- If a time series will be rejected due to a failure in the TPS the relevant time series has to be incremented. The time series versions which are stated in the test cases showing the ideal case.
- LTC and ML rights not part of the tests with DNV-GL
- For external trades explicit capacity in Long-Term and Day-Ahead process only border CH-IT (Swissgrid-Terna) with EIC Area Code 10YIT-GRTN-----B and 10YCH-SWISSGRIDZ will be tested
- For external trades explicit capacity in Intra-Day process only border CH-FR (Swissgrid-RTE) with EIC Area Code 10YFR-RTE-----C and 10YCH-SWISSGRIDZ will be tested
- Unless otherwise described the capacity rights send by help of the rights document by DNV-GL have to be fulfilled according the technical balance group regulations
- Principle for external trades:
After one scheduling process is finished the schedules are firm. This means after Long-Term matching it is not allowed to change these nominations in Day-Ahead matching. After Day-Ahead matching it is not allowed to change these nominations in Intra-Day matching.
- Principle for internal trades:
After one scheduling process is finished the schedules can be adjustable in the next process. This means after Day-Ahead matching it is allowed to change nominations in Intra-Day matching and PSA.
- Balance Group with metering points:
 - Test chapter 5: CONS time series in the schedule message is optional
 - Test chapter 7: CONS time series in the schedule message is mandatory

- Unless otherwise specified, the TPS schedule messages in the test scenarios are tested for the following:
 - Correctness of the XML message according to ESS V2R3
 - Standardized XML reference to DTD for ESS v2r3 messages
 - Compliance with the Technical Balance Group Requirements (including file name)
 - Compliance with the capacity specifications in the right documents
 - EIC codes (plausibility)

4.3. Glossary

- D: Schedule day
- Long-Term process: Nomination of schedules for Long-Term
- Intra-Day process: Nomination of schedules for Intra-Day (today)
- Day-Ahead process: Nomination of schedules for Day-Ahead (tomorrow)
- PSA: Post scheduling adjustment. Nomination of Swiss internal schedules till D+2
- LTC: Long Term Contract (Historical Long Term cross zonal capacity)
- ML: Merchant Line (Cross zonal capacity of Merchant Line)
- Other terms: See VSE document «Glossary for the rules governing the Swiss electricity market»

4.4. Messages using ESS v2r3

The following table describes the required Dtd Version and Dtd Release versions of the different messages as it is when using ESS 2.3.

Message	ESS 2.3		
	Dtd Version	Dtd Release	DOCTYPE
AcknowledgementDocument	2	3	<!DOCTYPE AcknowledgementMessage SYSTEM "../schedulev2r3/dtd/acknowledgement-xml.dtd">
AnomalyReport	2	3	<!DOCTYPE AnomalyReport SYSTEM "../schedulev2r3/dtd/anomaly-xml.dtd">
ConfirmationReport	2	3	<!DOCTYPE ConfirmationReport SYSTEM "../schedulev2r3/dtd/confirmation-xml.dtd">
ScheduleMessage	2	3	<!DOCTYPE ScheduleMessage SYSTEM "../schedulev2r3/dtd/schedule-xml.dtd">

With ESS 2.3 all references must be to Dtd's, forced by mentioning the DOCTYPE.

4.5. Status Request

The Status Request is independent of the used ESS version. But a BRP who is using ESS v2r3 gets back the requested information in ESS v2r3 format.

	ESS 2.0		
Message	Dtd Version	Dtd Release	Style sheet reference
StatusRequest	2	0	<?xml-stylesheet type="text/xsl" href="../../statusrequestv2r0/stylesheet/request-xsl.xsl"?>

5. Testcases on DNV-GL test platform

5.1. Formal test for TPS schedule messages

In this chapter every test case resp. test scenario is independent of each other. The keynote is to test the formal correctness of each TPS per scheduling process from Long-Term through Day-Ahead to Intra-Day and PSA process.

5.1.1. Long-Term, formal test description

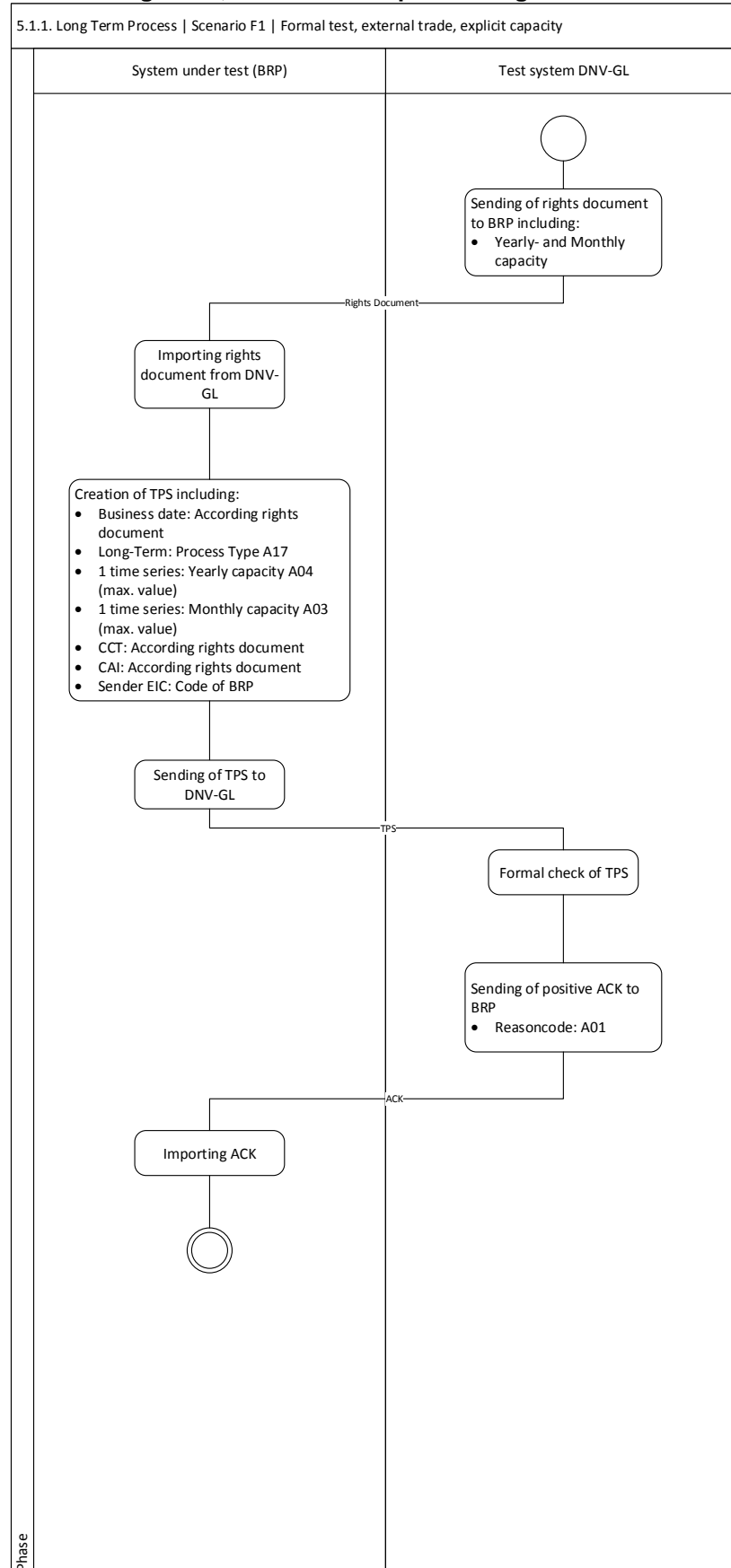
Scenario:	F1
Execution:	For all registered BG mandatory
Purpose:	Long-Term, formal test, external trade, explicit capacity
Note:	Only external Long-Term time series (yearly/monthly). LTC and ML rights are not part of the tests with DNV-GL.
Timing:	D-1 before 08h30

#	System Under Test	DNV-GL Test System
1		DNV-GL sends a Rights Document including Yearly- and Monthly Capacity for the relevant business day to the BRP. (LTC and ML rights are not part of this test)
2	BRP sends a TPS: <ul style="list-style-type: none"> • TPS is set up according the rights document from DNV-GL <ul style="list-style-type: none"> • The max. values of Yearly and Monthly capacity have to be used • Long-Term: Process type A17 • Number of time series according rights document with Business type «A03» (External trade explicit capacity) • Capacity contract type: <ul style="list-style-type: none"> • Border CH-IT: <ul style="list-style-type: none"> «A04» (Yearly) «A03» (Monthly) • Capacity Agreement Identification: According rights document from DNV-GL • Sender EIC code of BG 	
3		For formally correct TPS: Sends a positive ACK message <ul style="list-style-type: none"> • Reason code A01

Note:

The schedule message and schedule time series must have the same version number (this is verified by the ESS formal test platform)

5.1.1.1. Long-Term, formal test sequence diagram



5.1.2. Day-Ahead, formal test description

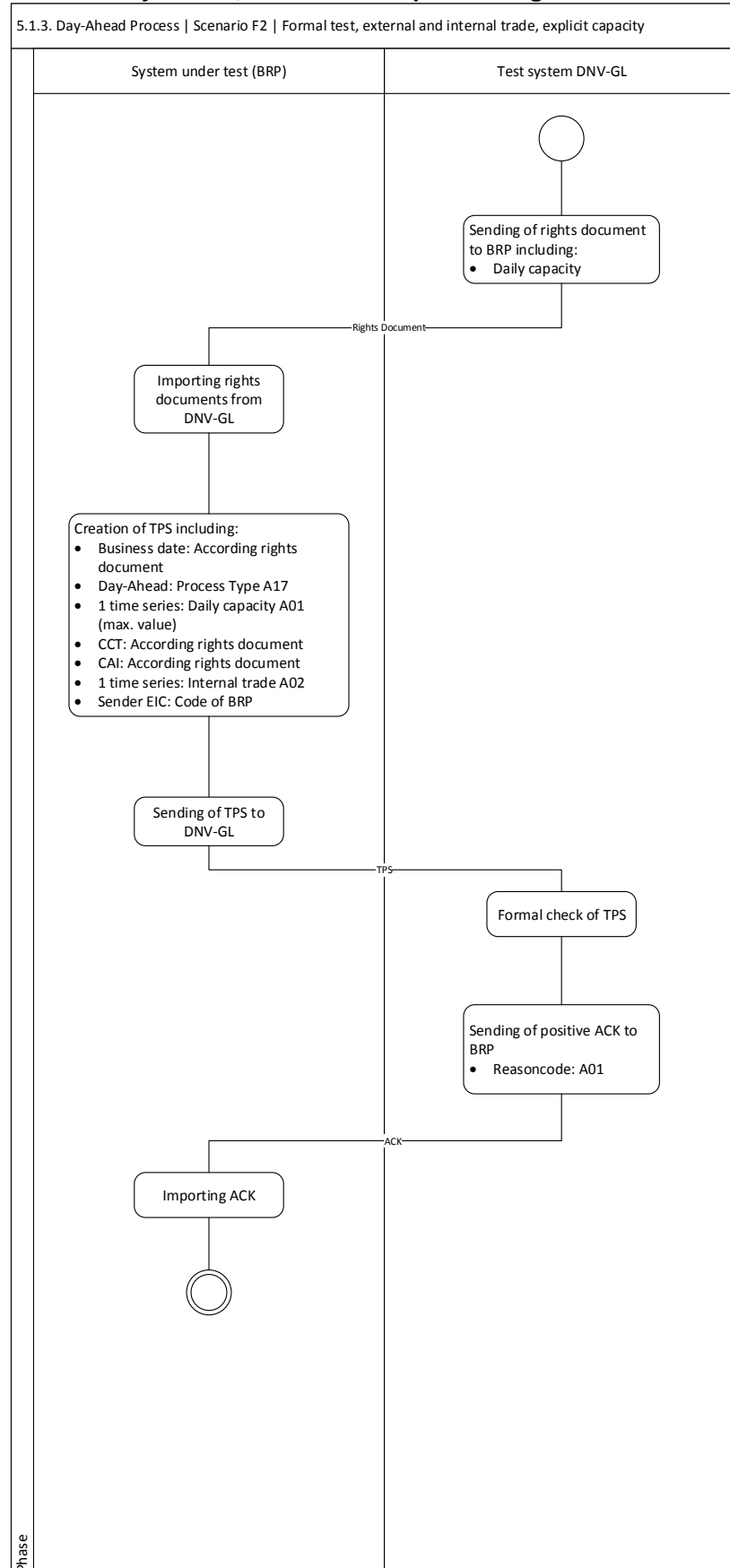
Scenario:	F2
Execution:	For all registered BG mandatory
Purpose:	Day-Ahead, formal test, external and internal trade, explicit capacity
Note:	Only external Day-Ahead time series (daily) and internal time series
Timing:	D-1 before 14h30

#	System Under Test	DNV-GL Test System
1		DNV-GL sends a Rights Document including Daily Capacity for the relevant business day to the BRP
2	BRP sends a TPS: <ul style="list-style-type: none"> • TPS is set up according the rights document from DNV-GL <ul style="list-style-type: none"> • The max. values of Daily capacity have to be used • Day-Ahead: Process type A17 • Number of time series according rights document with Business type «A03» (External trade explicit capacity) • Capacity contract type: <ul style="list-style-type: none"> • Border CH-IT: «A01» (Daily) • Capacity Agreement Identification: According rights document from DNV-GL • 1 time series with: Business type «A02» internal trade (any values > 0) • Sender EIC code of BG 	
3		For formally correct TPS: Sends a positive ACK message <ul style="list-style-type: none"> • Reason code A01

Note:

The schedule message and schedule time series must have the same version number (this is verified by the ESS formal test platform).

5.1.2.1. Day-Ahead, formal test sequence diagram



5.1.3. Intra-Day, formal test description

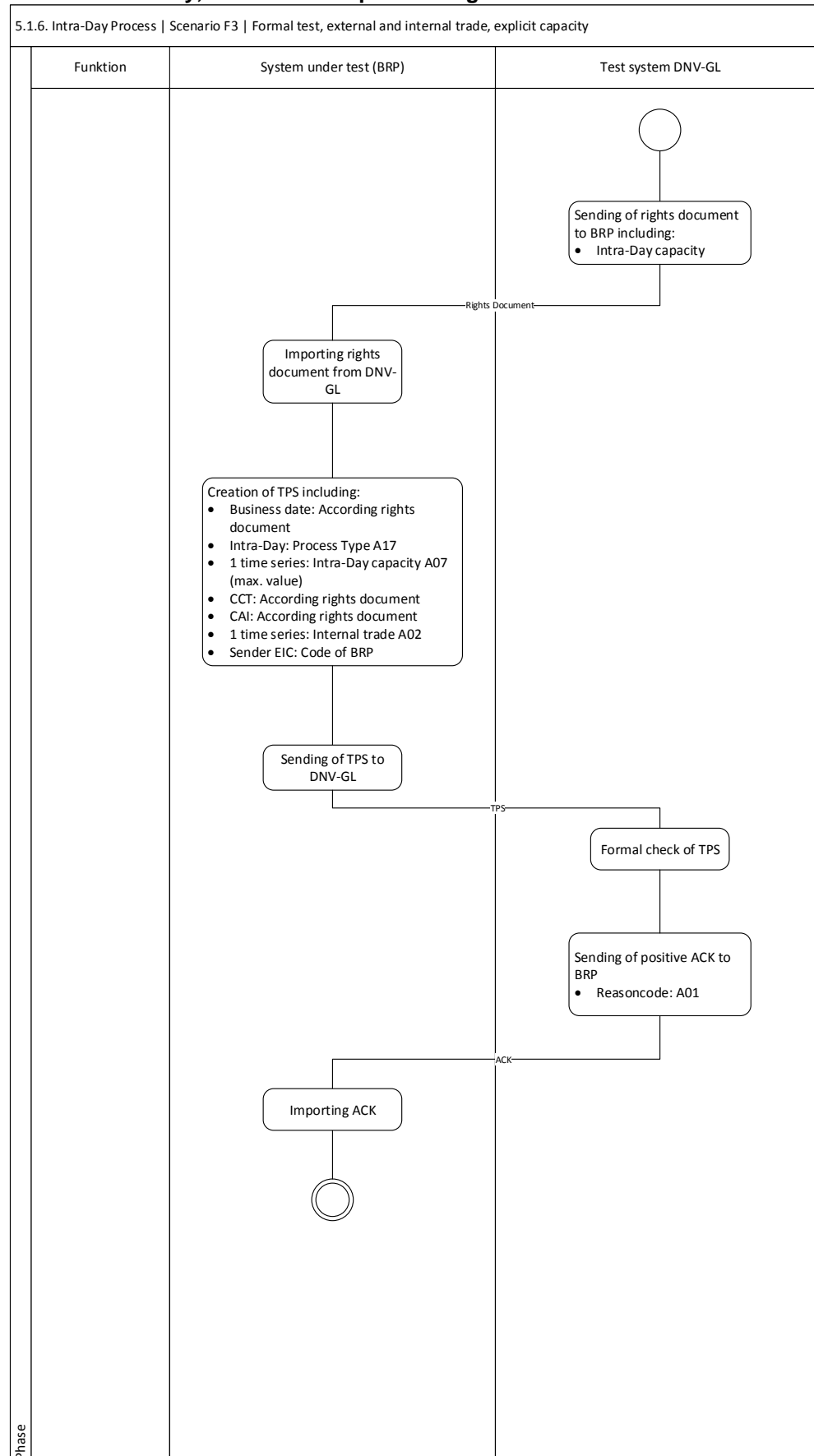
Scenario:	F3
Execution:	For all registered BG mandatory
Purpose:	Intra-Day, formal test, external trade and internal trade, explicit capacity
Note:	Only external Intra-Day time series (Intra-Day capacity from DB AG) and internal time series
Timing:	after D-1 16h30, before D 23h15

#	System Under Test	DNV-GL Test System
1		DNV-GL sends a Rights Document including Intra-Day capacity for the relevant business day to the BRP
2	BRP sends a TPS: <ul style="list-style-type: none"> • TPS is set up according the rights document from DNV-GL <ul style="list-style-type: none"> • The max. values of Intra-Day capacity have to be used • Intra-Day: Process type A17 • Number of time series according rights document with Business type «A03» (External trade explicit capacity) • Capacity contract type: <ul style="list-style-type: none"> • Border CH-FR: «A07» (Intra-Day) • Capacity Agreement Identification: According rights document from DNV-GL • 1 time series with: Business type «A02» internal trade (any values > 0) • Sender EIC code of BG 	
3		For formally correct TPS: Sends a positive ACK message <ul style="list-style-type: none"> • Reason code A01

Note:

The schedule message and schedule time series must have the same version number (this is verified by the ESS formal test platform).

5.1.3.1. Intra-Day, formal test sequence diagram



5.1.4. Post scheduling adjustment, formal test description

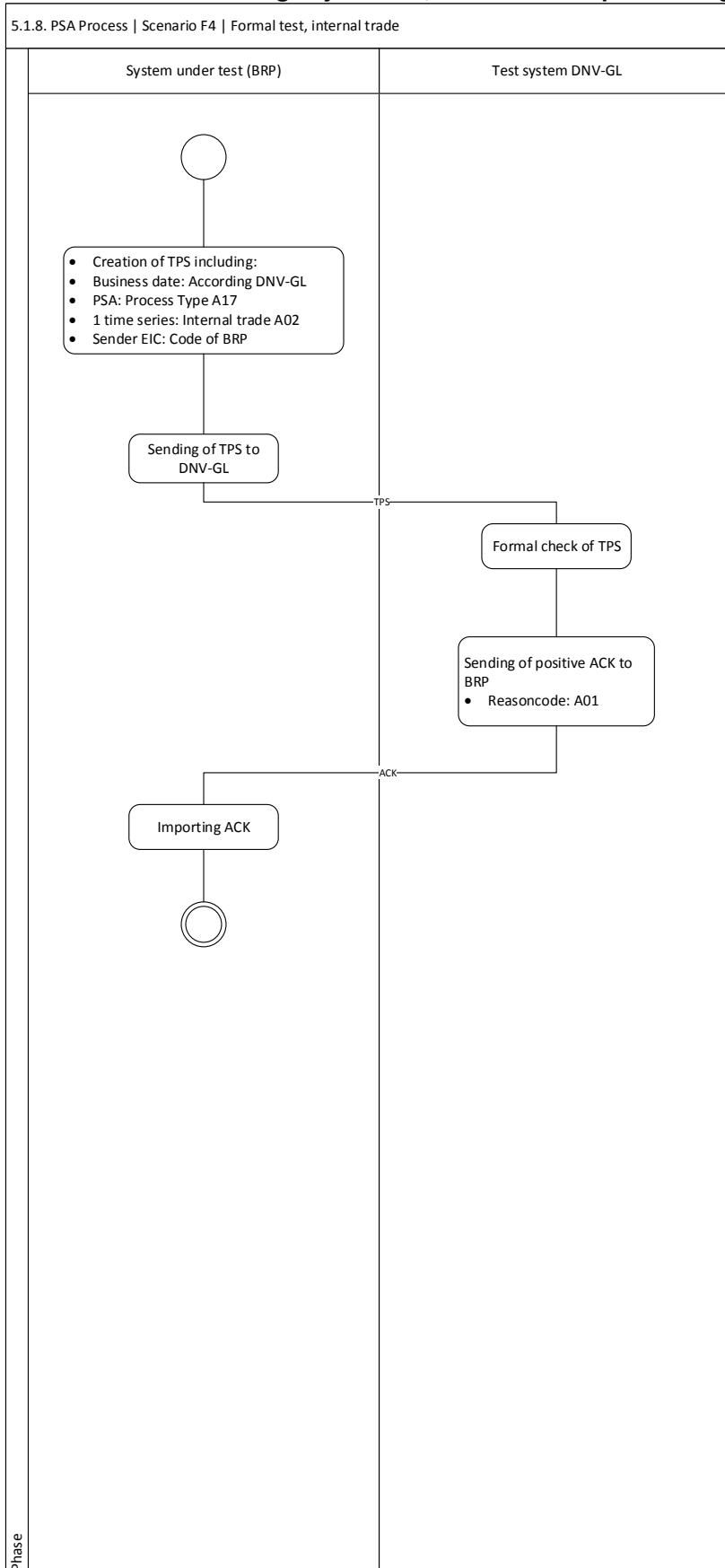
Scenario:	F4
Execution:	For all registered BG mandatory
Purpose:	Post scheduling adjustment; formal test, internal trade
Note:	Only internal PSA time series
Timing:	D+1 00h00 till D+2 16h00

#	System Under Test	DNV-GL Test System
1	BRP sends a TPS: <ul style="list-style-type: none"> • Post scheduling adjustment: Process type A17 • 1 time series with: Business type «A02» internal trade (any values > 0) • Sender EIC code of BG 	
3		For formally correct TPS: Sends a positive ACK message <ul style="list-style-type: none"> • Reason code A01

Note:

The schedule message and schedule time series must have the same version number (this is verified by the ESS formal test platform).

5.1.4.1. Post scheduling adjustment, formal test sequence diagram



5.2. Continuous matching process

In this chapter test cases resp. test scenarios are built upon each other. The keynote is to simulate the process flow in real operation if everything runs smoothly. The DNV-GL test system will simulate the individual timings for the separate schedule processes. The BRP sends a proper TPS as described in the test cases to simulate an accurate process flow from Long-Term through Day-Ahead to Intra-Day and PSA process.

5.2.1. Matching process Long-Term, test description

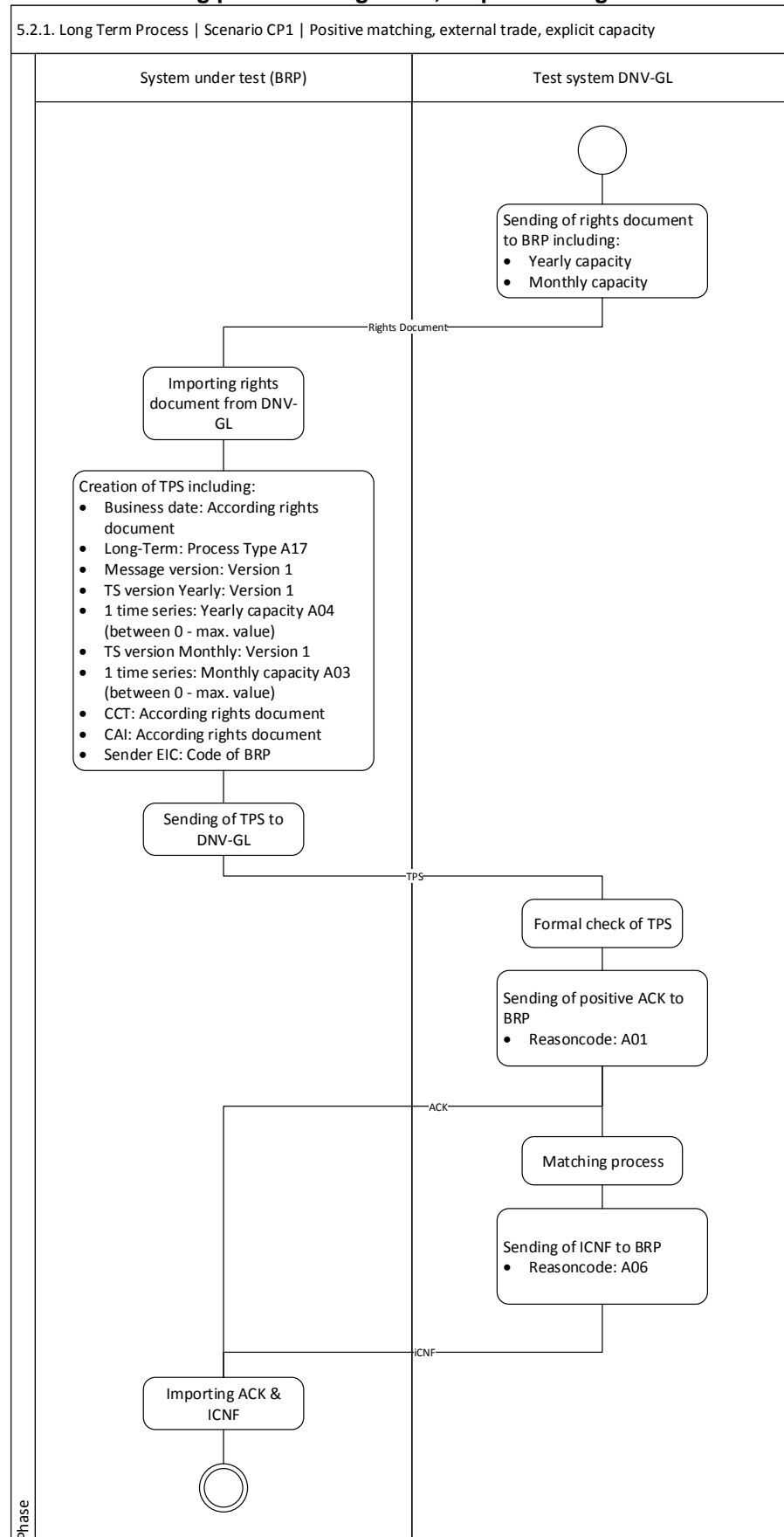
Scenario:	CP1
Execution:	For all registered BG mandatory
Purpose:	Matching process Long-Term, external trade (incl. all time series from previous processes)
Note:	Matching process only with external Long-Term time series (yearly/monthly). Nominations have to fulfil the capacity rights in the rights document.
Timing:	D-1 before 08h30 (the values have to fulfil the Long-Term capacity rights)

#	System Under Test	DNV-GL Test System
1		DNV-GL sends a rights document including yearly and monthly capacity for the relevant business day to the BRP
2	BRP sends a TPS: <ul style="list-style-type: none"> • Message version: Version 1 • Time series versions: Version 1 • TPS is set up according the rights document from DNV-GL <ul style="list-style-type: none"> • The values have to be between 0 and max. value of Yearly- and Monthly capacity • Long-Term: Process type A17 • 1 time series with: Business type «A03» (External trade explicit capacity) <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A04» (Yearly) • 1 time series with: Business type «A03» (External trade explicit capacity) <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A03» (Monthly) • Capacity Agreement Identification: According rights document from DNV-GL • Sender EIC code of BG 	
3		For formally correct TPS: Sends a positive ACK message <ul style="list-style-type: none"> • Reason code A01
4		For TPS with correct content: Sends an intermediate confirmation <ul style="list-style-type: none"> • Reason code A06

Note:

The scenario is based on the assumption that the schedule message for a trade partner contains only one schedule time series: i.e. it is assumed that all schedule time series are processed with different market players.

5.2.1.1. Matching process Long-Term, sequence diagram



5.2.2. Matching process Day-Ahead, test description

Scenario:	CP2
Execution:	For all registered BG mandatory
Purpose:	Matching process Day-Ahead, external and internal trade (incl. all time series from previous processes)
Note:	Matching process with already matched external Long-Term time series (yearly/monthly) from scenario CP1, new external Day-Ahead (daily) time series and new internal time series. Nominations have to fulfil the capacity rights in the rights document.
Timing:	D-1 before 14h30 (the values have to fulfil the daily capacity rights and the already matched Long-Term time series are not changeable)

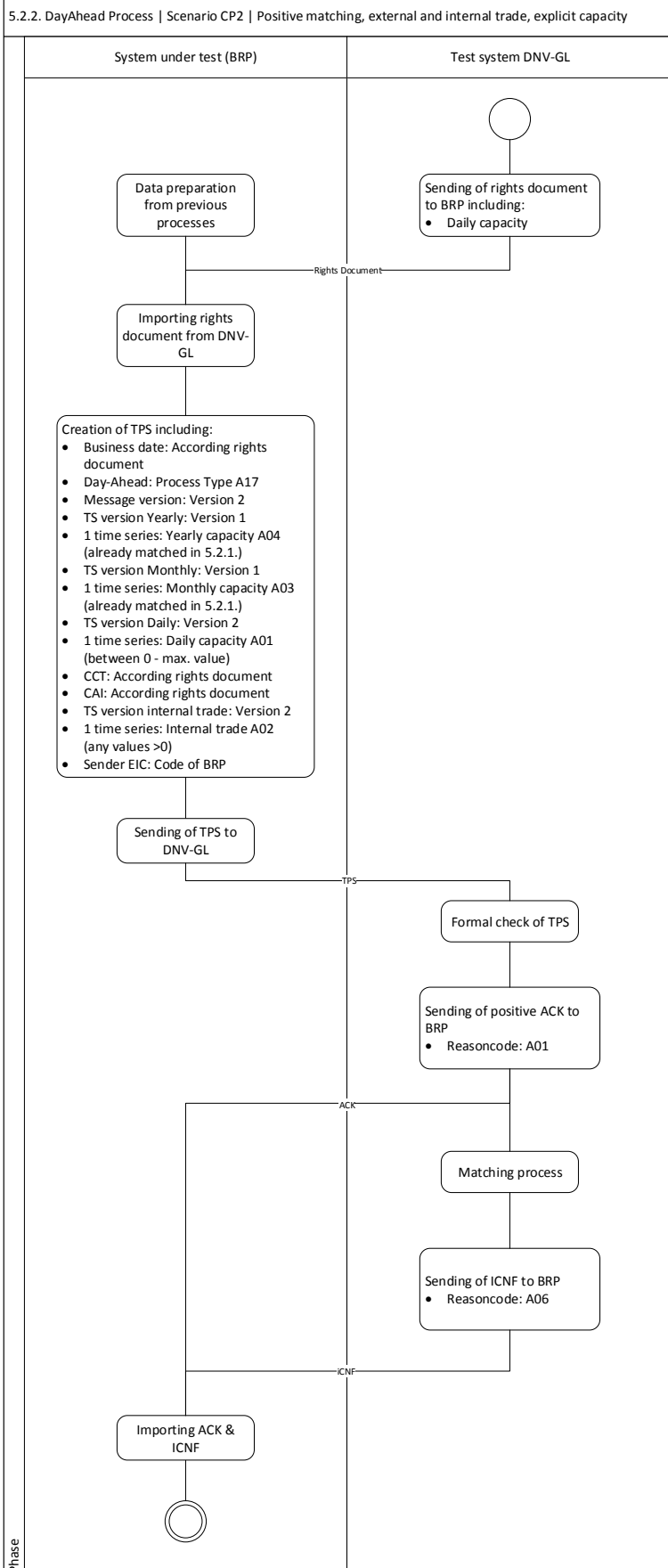
#	System Under Test	DNV-GL Test System
1		DNV-GL sends a rights document including daily capacity for the relevant business day to the BRP
2	<p>BRP sends a TPS:</p> <ul style="list-style-type: none"> • TPS is set up according the matched time series from previous processes • TPS is set up according the rights document from DNV-GL <ul style="list-style-type: none"> • The values have to be between 0 and max. value of daily capacity • Message version: Increased to version 2 • Time series version: Increased to version 2 for Day-Ahead time series • Day-Ahead: Process type A17 • 1 time series with: Business type «A03» (External trade explicit capacity) which was already matched in scenario CP1 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A04» (Yearly) • 1 time series with: Business type «A03» (External trade explicit capacity) which was already matched in scenario CP1 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A03» (Monthly) • 1 time series with: Business type «A03» (External trade explicit capacity) for Day-Ahead capacity <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A01» (Daily) • Capacity Agreement Identification: According rights document from DNV-GL • Time series version: Version 2 for time series (internal trade) • 1 time series with: Business type «A02» internal trade (any values > 0) • Sender EIC code of BG 	

3	For formally correct TPS: Sends a positive ACK message • Reason code A01
4	For TPS with correct content: Sends an intermediate confirmation • Reason code A06

Note:

The scenario is based on the assumption that the schedule message for a trade partner contains only one schedule time series: i.e. it is assumed that all schedule time series are processed with different market players.

5.2.2.1. Matching process Day-Ahead, sequence diagram



5.2.3. Matching process Intra-Day, test description

Scenario:	CP3
Execution:	For all registered BG mandatory
Purpose:	Matching process Intra-Day, external and internal trade (incl. all time series from previous processes)
Note:	Matching process with already matched external Long-Term time series (yearly/monthly) from scenario CP1, external Day-Ahead (daily) time series from scenario CP2, new external Intra-Day time series (Intra-Day capacity) and internal time series from scenario CP2. Nominations have to fulfil the capacity rights in the rights document.
Timing:	D before 19h15 (the values have to fulfil the Intra-Day capacity rights and the already matched Long-Term and Day-Ahead time series are not changeable)

#	System Under Test	DNV-GL Test System
1		DNV-GL sends a Rights Document including Intra-Day Capacity for the relevant business day and hour 20h00 – 21h00 to the BRP. All values are zero except 20h00 – 21h00
2	<p>BRP sends a TPS:</p> <ul style="list-style-type: none"> • TPS is set up according the matched time series from previous processes • TPS is set up according the rights document from DNV-GL <ul style="list-style-type: none"> • The values have to be equal to the Intra-Day capacity for hour 20h00 – 21h00 • Message version: Increased to version 3 • Time series version: Increased to version 3 for Intra-Day time series • Time series version: Version 1 for Long-Term time series • Time series version: Version 2 for Day-Ahead time series • Intra-Day: Process type A17 • 1 time series with: Business type «A03» (External trade explicit capacity) which was already matched in scenario CP1 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A04» (Yearly) • 1 time series with: Business type «A03» (External trade explicit capacity) which was already matched in scenario CP1 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A03» (Monthly) • 1 time series with: Business type «A03» (External trade explicit capacity) for Day-Ahead capacity which was already matched in scenario CP2 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A01» (Daily) 	

-
- 1 time series with: Business type «A03» (External trade explicit capacity) for Intra-Day capacity
 - Capacity contract type:
 - Border CH-FR: «A07» (Intra-Day contract)
 - Capacity Agreement Identification: According rights document from DNV-GL
 - Time series version: Version 2 for time series (internal trade)
 - 1 time series with: Business type «A02» internal trade which was already matched in scenario CP2
 - Sender EIC code of BG
-

3

For formally correct TPS:
Sends a positive ACK message

- Reason code A01

4

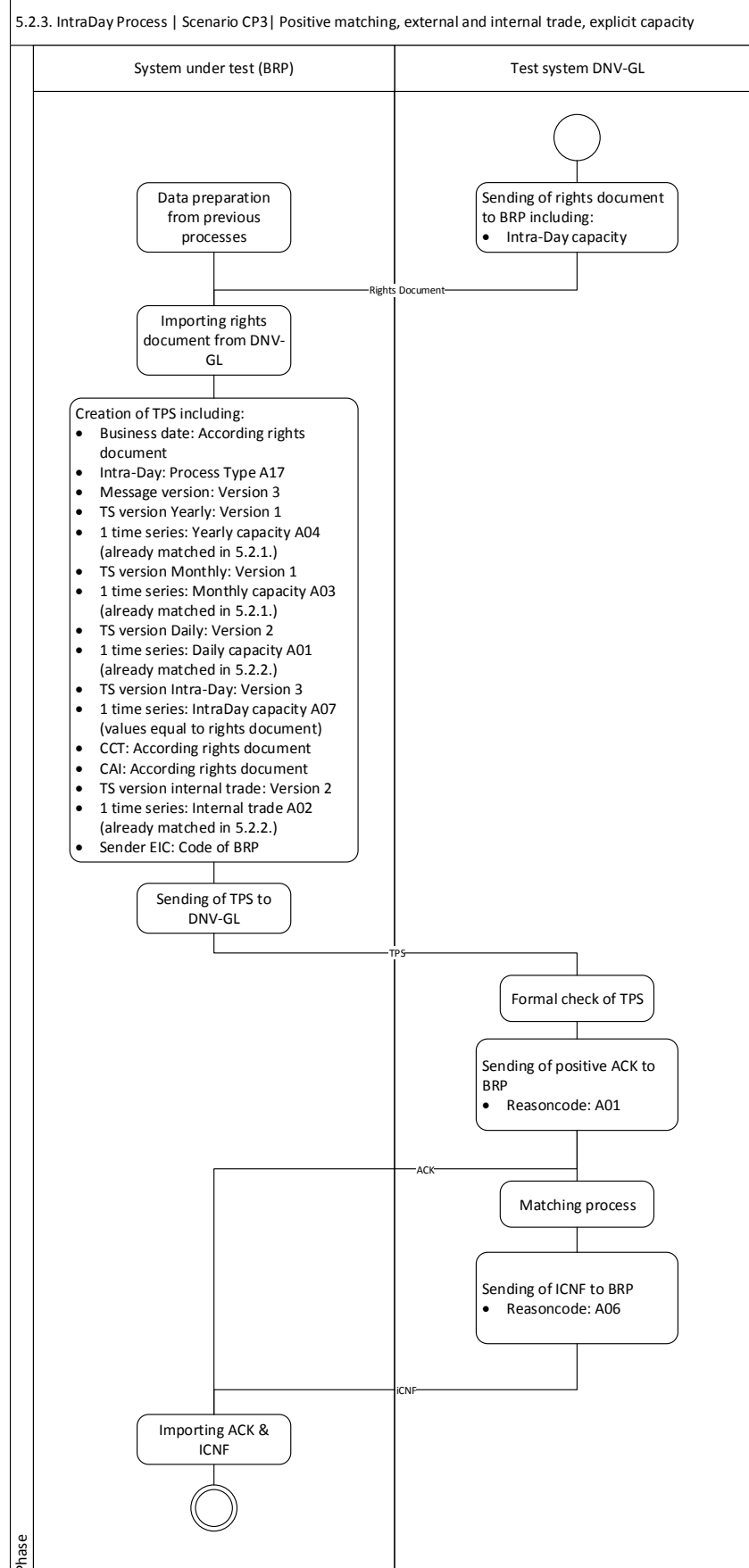
For TPS with correct content:
Sends an intermediate confirmation

- Reason code A06

Note:

The scenario is based on the assumption that the schedule message for a trade partner contains only one schedule time series: i.e. it is assumed that all schedule time series are processed with different market players.

5.2.3.1. Matching process Intra-Day, sequence diagram



5.2.4. Matching process Intra-Day, updated Intra-Day capacity, test description

Scenario:	CP4
Execution:	For all registered BG mandatory
Purpose:	Matching process Intra-Day, external and internal trade, updated Intra-Day capacity (incl. all time series from previous processes)
Note:	Matching process with already matched external Long-Term time series (yearly/monthly) from scenario CP1, external Day-Ahead (daily) time series from scenario CP2, updated external Intra-Day time series (Intra-Day capacity) from scenario CP3 and internal time series from scenario CP2.
Timing:	D before 20h15 (the values have to fulfil the Intra-Day capacity rights and the already matched Long-Term, Day-Ahead and Intra-Day time series before 21h00 are not changeable). External Intra-Day time series has to be updated for time period 21h00 – 22h00

#	System Under Test	DNV-GL Test System
1		DNV-GL sends a Rights Document including Intra-Day Capacity for the relevant business day and hour 21h00 – 22h00 to the BRP. All values are zero except 20h00 – 21h00 and 21h00 – 22h00
2	<p>BRP sends a TPS:</p> <ul style="list-style-type: none"> • TPS is set up according the matched time series from previous processes • TPS is set up according the rights document from DNV-GL <ul style="list-style-type: none"> • The values have to be equal to the Intra-Day capacity for hour 21h00 – 22h00 and previous hours • Message version: Increased to version 4 • Time series version: Increased to version 4 for external Intra-Day time series • Time series version: Version 1 for Long-Term time series • Time series version: Version 2 for Day-Ahead time series • Intra-Day: Process type A17 • 1 time series with: Business type «A03» (External trade explicit capacity) which was already matched in scenario CP1 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A04» (Yearly) • 1 time series with: Business type «A03» (External trade explicit capacity) which was already matched in scenario CP1 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A03» (Monthly) • 1 time series with: Business type «A03» (External trade explicit capacity) for Day-Ahead capacity which was already matched in scenario CP2 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A01» (Daily) 	

-
- 1 time series with: Business type «A03» (External trade explicit capacity) for Intra-Day capacity updated from scenario CP3 to CP4
 - Capacity contract type:
 - Border CH-FR: «A07» (Intra-Day contract)
 - Capacity Agreement Identification: According rights document from DNV-GL
 - Time series version: Version 2 for time series (internal trade)
 - 1 time series with: Business type «A02» internal trade which was already matched in scenario CP2
 - Sender EIC code of BG
-

3

For formally correct TPS:
Sends a positive ACK message

- Reason code A01

4

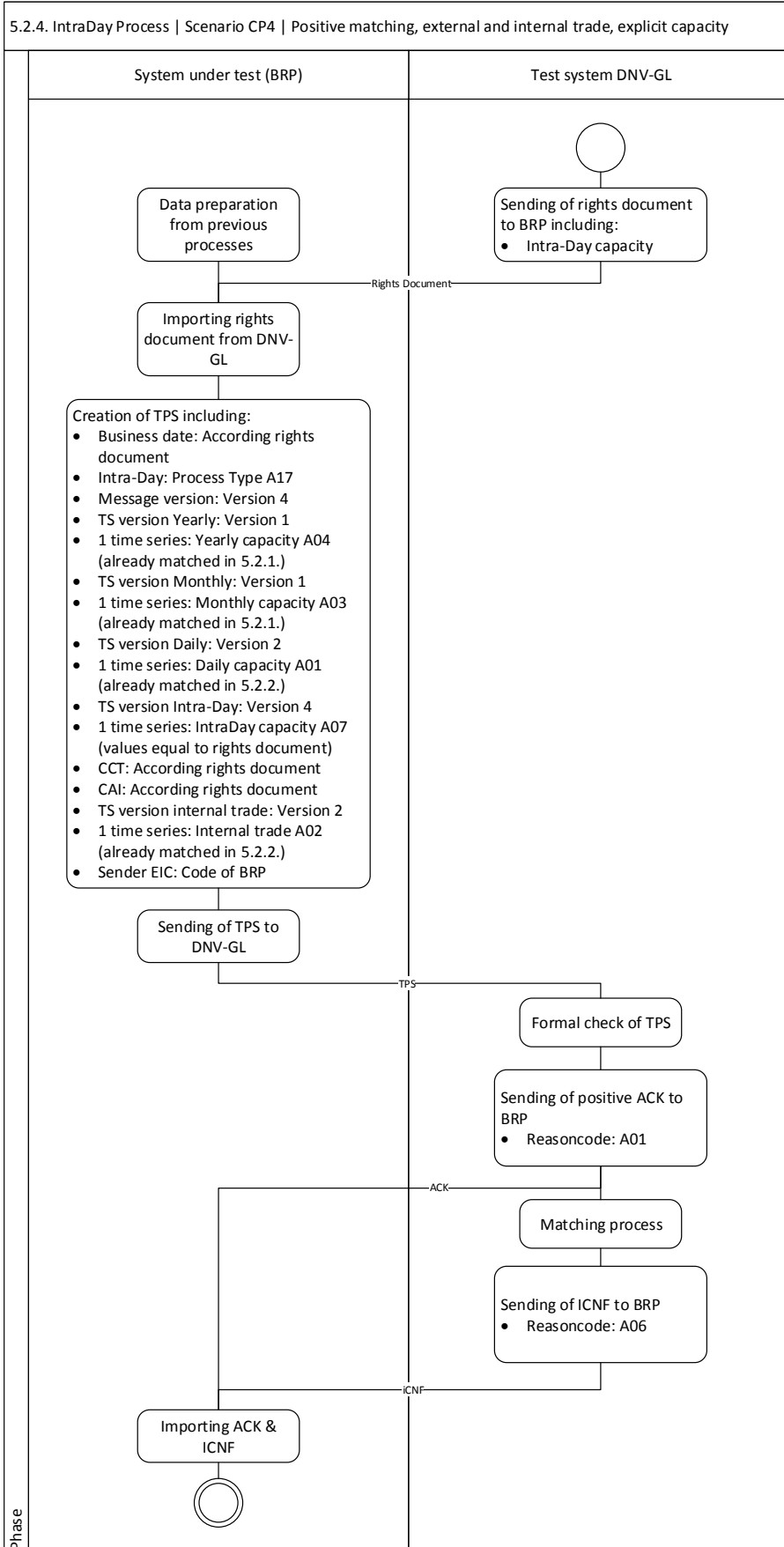
For TPS with correct content:
Sends an intermediate confirmation

- Reason code A06

Note:

The scenario is based on the assumption that the schedule message for a trade partner contains only one schedule time series: i.e. it is assumed that all schedule time series are processed with different market players.

5.2.4.1. Matching process Intra-Day, updated Intra-Day capacity, sequence diagram



5.2.5. Matching process Post scheduling adjustment, test description

Scenario:	CP5
Execution:	For all registered BG mandatory
Purpose:	Matching process Post scheduling adjustment, external and internal trade (incl. all time series from previous processes)
Note:	Matching process with already matched external Long-Term time series (yearly/monthly) from scenario CP1, external Day-Ahead (daily) time series from scenario CP2, external Intra-Day time series (Intra-Day capacity) from scenario CP4 and adjusted internal time series from scenario CP2 in PSA.
Timing:	D+1 00h00 till D+2 16h00 (the already matched external Long-Term, Day-Ahead and Intra-Day time series are not changeable). Internal PSA time series have to be changed for time period 14h00 – 15h00

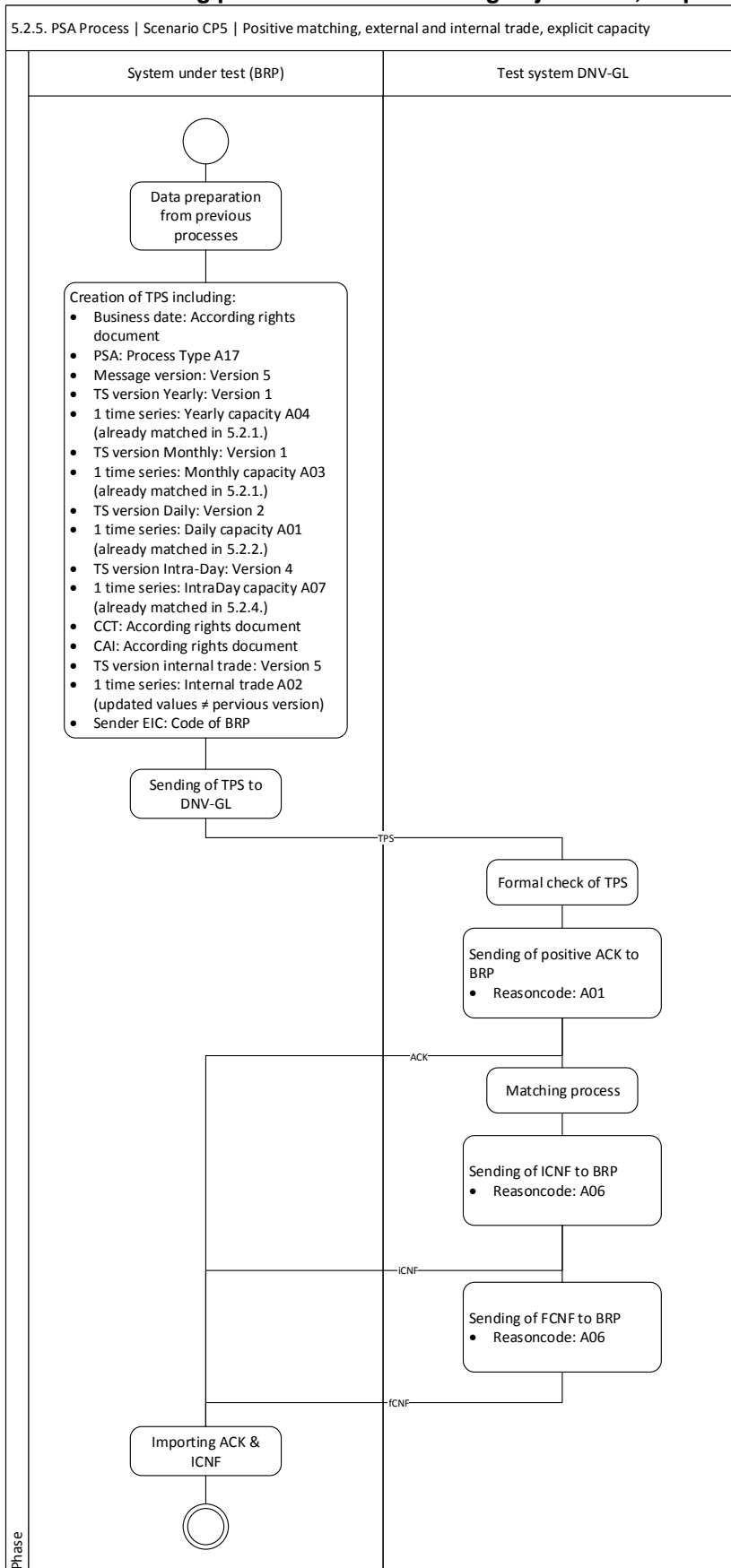
#	System Under Test	DNV-GL Test System
1	<p>BRP sends a TPS:</p> <ul style="list-style-type: none"> • TPS is set up according the matched time series from previous processes • Message version: Increased to version 5 • Time series version: Increased to version 5 for PSA time series • Time series version: Version 1 for Long-Term time series • Time series version: Version 2 for Day-Ahead time series • Time series version: Version 4 for external Intra-Day time series • Post scheduling adjustment: Process type A17 • 1 time series with: Business type «A03» (External trade explicit capacity) which was already matched in scenario CP1 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A04» (Yearly) • 1 time series with: Business type «A03» (External trade explicit capacity) which was already matched in scenario CP1 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A03» (Monthly) • 1 time series with: Business type «A03» (External trade explicit capacity) for Day-Ahead capacity which was already matched in scenario CP2 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A01» (Daily) • 1 time series with: Business type «A03» (External trade explicit capacity) for Intra-Day capacity which was already matched in scenario CP3 and CP4 <ul style="list-style-type: none"> • Capacity contract type: Border CH-FR: «A07» (Intra-Day contract) • Capacity Agreement Identification: According rights document from DNV-GL • Time series version: Version 5 for PSA time series (internal trade) 	

	<ul style="list-style-type: none"> • 1 time series with: Business type «A02» internal trade with adjusted values for PSA in hour 14:00 – 15:00 (any values ≠ previous version) • Sender EIC code of BG
2	For formally correct TPS: Sends a positive ACK message <ul style="list-style-type: none"> • Reason code A01
3	For TPS with correct content: Sends an intermediate confirmation <ul style="list-style-type: none"> • Reason code A06
4	For TPS with correct content: Sends a final confirmation <ul style="list-style-type: none"> • Reason code A06

Note:

The scenario is based on the assumption that the schedule message for a trade partner contains only one schedule time series: i.e. it is assumed that all schedule time series are processed with different market players.

5.2.5.1. Matching process Post scheduling adjustment, sequence diagram



5.3. Continuous matching process / negative

In this chapter the test cases resp. test scenarios are built upon each other. The keynote is to simulate operational issues as they can happen in real operation. The DNV-GL test system will simulate the individual timings for the separate schedule processes. The BRP sends an inaccurate TPS as described in the test cases to simulate operational issues and after response of the test system a correction cycle is required. The operational issues are simulated in the whole process flow from Long-Term through Day-Ahead to Intra-Day and PSA process.

5.3.1. Matching process Long-Term, wrong CAI & CCT, test description

Scenario:	CN1
Execution:	For all registered BG mandatory
Purpose:	Matching process Long-Term, external trade (incl. all time series from previous processes), wrong CAI & CCT
Note:	External Long-Term time series (yearly). BRP sends TPS with wrong CAI & CCT for Yearly capacity. After positive ACK and ANC the BRP sends a corrected TPS with correct CAI & CCT.
Timing:	D-1 before 08:30 (the values have to fulfil the Long-Term capacity rights)

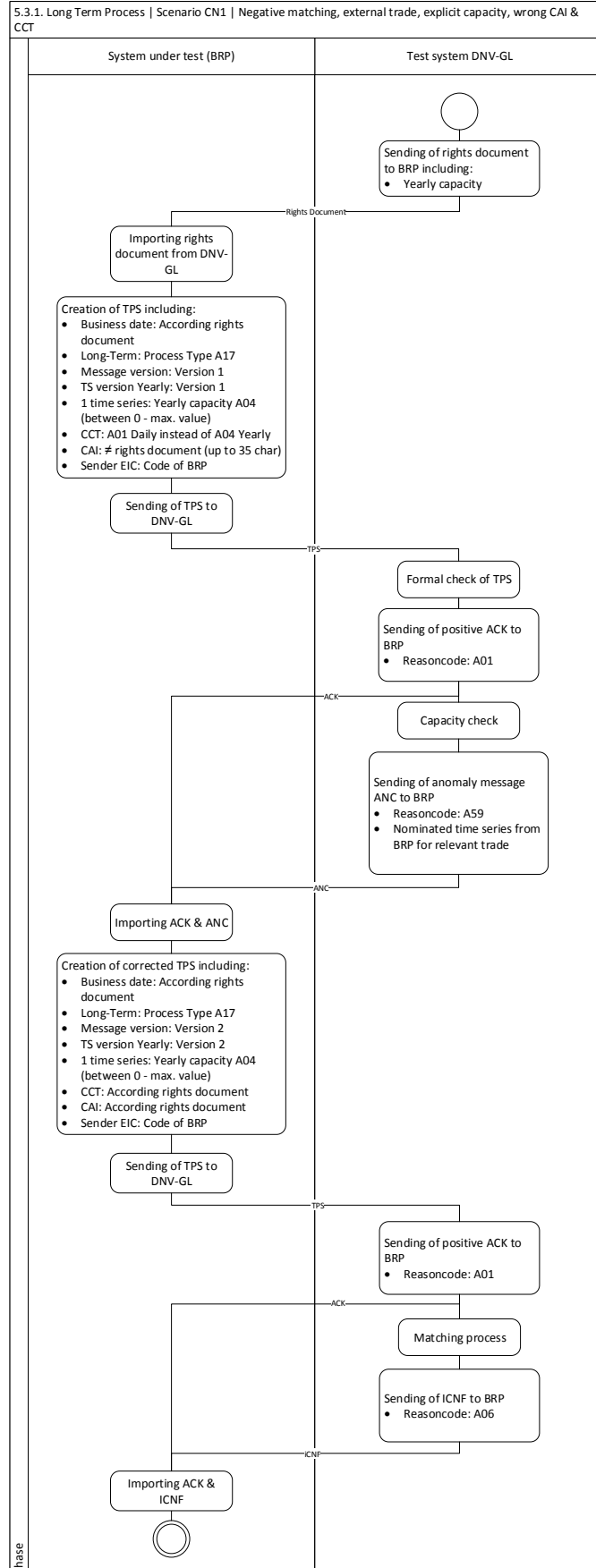
#	System Under Test	DNV-GL Test System
1		DNV-GL sends a Rights Document including Yearly Capacity for the relevant business day to the BRP.
2	BRP sends a TPS: <ul style="list-style-type: none"> • Message version: Version 1 • Time series version: Version 1 • TPS is set up according the rights document from DNV-GL <ul style="list-style-type: none"> • The values have to be between 0 and max. value of Yearly capacity • Long-Term: Process type A17 • 1 time series with: Business type «A03» (External trade explicit capacity) <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A01» (Daily) instead of «A04» (Yearly) • Capacity Agreement Identification: Any value up to 35 characters but not according rights document from DNV-GL • Sender EIC code of BG 	
3		For formally correct TPS: Sends a positive ACK message <ul style="list-style-type: none"> • Reason code A01
4		Sends an anomaly message ANC: <ul style="list-style-type: none"> • Reason code A59 • The ANC contains 1 time series: <ul style="list-style-type: none"> • Nominated time series from BRP for relevant trade

5	<p>BRP sends a corrected TPS:</p> <ul style="list-style-type: none"> • Message version: Version 2 • Time series version: Version 2 • TPS is set up according the rights document from DNV-GL <ul style="list-style-type: none"> • The values have to be between 0 and max. value of Yearly capacity • Long-Term: Process type A17 • 1 time series with: Business type «A03» (External trade explicit capacity) <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A04» (Yearly) • Capacity Agreement Identification: According rights document from DNV-GL • Sender EIC code of BG 	
6		<p>For formally correct TPS: Sends positive ACK message</p> <ul style="list-style-type: none"> • Reason code A01
7		<p>For TPS with correct content: Sends an intermediate confirmation</p> <ul style="list-style-type: none"> • Reason code A06

Note:

The scenario is based on the assumption that the schedule message for a trade partner contains only one schedule time series: i.e. it is assumed that all schedule time series are processed with different market players.

5.3.1.1. Matching process Long-Term, wrong CAI & CCT, sequence diagram



5.3.2. Matching process Day-ahead, adjusted Long-Term time series, test description

Scenario:	CN2
Execution:	For all registered BG mandatory
Purpose:	Matching process Day-ahead, external and internal trade (incl. all time series from previous processes), nomination of Long-Term time series in Day-ahead process (adjusted values in Long-Term time series)
Note:	External Long-Term time series (yearly) from scenario CN1, new external Day-ahead time series (daily) and new internal time series. BRP sends TPS with adjusted Long-Term time series for Yearly capacity after COT of Long-Term process . After negative ACK the BRP sends a corrected TPS with previous matched values for Long-Term time series.
Timing:	D-1 before 14:30 (the values have to fulfil the daily capacity rights)

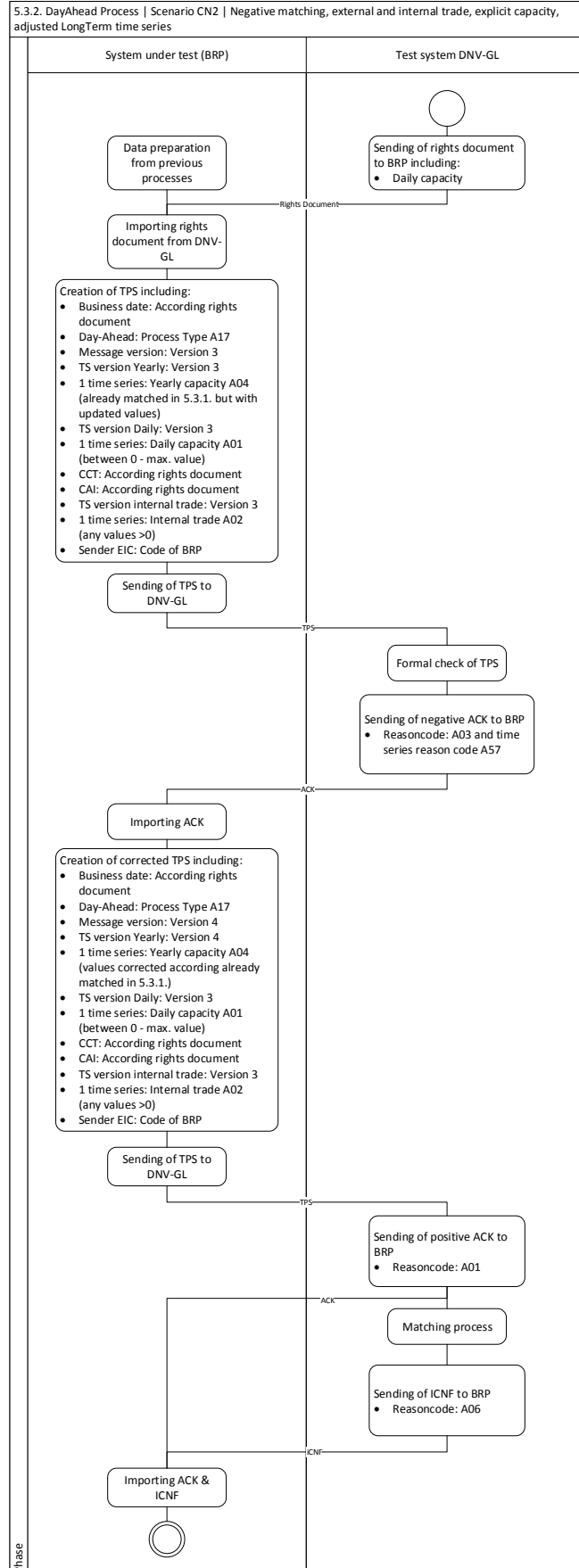
#	System Under Test	DNV-GL Test System
1		DNV-GL sends a Rights Document including daily capacity for the relevant business day to the BRP.
2	<p>BRP sends a TPS:</p> <ul style="list-style-type: none"> • TPS is not set up according the matched time series from previous processes <ul style="list-style-type: none"> • The Long-Term time series are modified • TPS is set up according the rights document from DNV-GL <ul style="list-style-type: none"> • The values have to be between 0 and max. value of Daily capacity • Message version: Increased to version 3 • Time series version: Increased to version 3 for Day-Ahead time series • Time series version: Version 3 for Long-Term time series • Day-Ahead: Process type A17 • 1 time series with: Business type «A03» (External trade explicit capacity) which was already matched in scenario CN1 but now with modified values <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A04» (Yearly) • 1 time series with: Business type «A03» (External trade explicit capacity) for Day-Ahead capacity <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A01» (Daily) • Capacity Agreement Identification: According rights document from DNV-GL • Time series version: Version 3 for time series (internal trade) • 1 time series with: Business type «A02» internal trade (any values > 0) • Sender EIC code of BG 	
3		<p>Sends a negative ACK message</p> <ul style="list-style-type: none"> • Reason code A03 and time series reason code A57

4	<p>BRP sends a corrected TPS:</p> <ul style="list-style-type: none"> • TPS is set up according the matched time series from previous processes <ul style="list-style-type: none"> • The Long-Term time series is corrected according the previous Long-Term matching in scenario CN1 • TPS is set up according the rights document from DNV-GL <ul style="list-style-type: none"> • The values have to be between 0 and max. value of Daily capacity • Message version: Increased to version 4 • Time series version: Version 3 for Day-Ahead time series • Time series version: Increased to version 4 for Long-Term time series • Day-Ahead: Process type A17 • 1 time series with: Business type «A03» (External trade explicit capacity) which was already matched in scenario CN1 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A04» (Yearly) • 1 time series with: Business type «A03» (External trade explicit capacity) for Day-Ahead capacity <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A01» (Daily) • Capacity Agreement Identification: According rights document from DNV-GL • Time series version: Version 3 for time series (internal trade) • 1 time series with: Business type «A02» internal trade (any values > 0) • Sender EIC code of BG
5	<p>For formally correct TPS: Sends positive ACK message</p> <ul style="list-style-type: none"> • Reason code A01
6	<p>For TPS with correct content: Sends an intermediate confirmation</p> <ul style="list-style-type: none"> • Reason code A06

Note:

The scenario is based on the assumption that the schedule message for a trade partner contains only one schedule time series: i.e. it is assumed that all schedule time series are processed with different market players.

5.3.2.1. Matching process Day-ahead, adjusted Long-Term time series, sequence diagram



5.3.3. Matching process Intra-day, capacity violation, test description

Scenario:	CN3
Execution:	For all registered BG mandatory
Purpose:	Matching process Intra-day, external and internal trade (incl. all time series from previous processes), capacity violation
Note:	External Long-Term time series (yearly) from scenario CN1 resp. CN2, external Day-ahead time series (daily) from scenario CN2, internal time series from scenario CN2 and new external Intra-Day time series (Intra-Day). BRP sends TPS with Intra-Day time series for Intra-Day capacity which exceeds the capacity according to the rights document. After ANC the BRP sends a corrected TPS with Intra-Day capacity time series fulfilling the values according to the rights document.
Timing:	D before 19:15 (the values have to fulfil the already matched Long-Term and Day-Ahead time series). External Intra-Day time series have to be changed for time period 20:00 – 21:00

#	System Under Test	DNV-GL Test System
1		DNV-GL sends a Rights Document including Intra-Day Capacity for the relevant business day and hour 20:00 – 21:00 to the BRP. All values are zero except 20:00 – 21:00.
2	<p>BRP sends a TPS:</p> <ul style="list-style-type: none"> • TPS is set up according to the matched time series from previous processes • TPS is not set up according to the rights document from DNV-GL <ul style="list-style-type: none"> • The values are not equal to the Intra-Day capacity for hour 20:00 – 21:00 • Message version: Increased to version 5 • Time series version: Increased to version 5 for Intra-Day time series • Time series version: Version 4 for Long-Term time series • Time series version: Version 3 for Day-Ahead time series • Intra-Day: Process type A17 • 1 time series with: Business type «A03» (External trade explicit capacity) which was already matched in scenario CN1 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A04» (Yearly) • 1 time series with: Business type «A03» (External trade explicit capacity) for Day-Ahead capacity which was already matched in scenario CN2 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A01» (Daily) • 1 time series with: Business type «A03» (External trade explicit capacity) for Intra-Day capacity <ul style="list-style-type: none"> • Capacity contract type: Border CH-FR: «A07» (Intra-Day Contract) 	

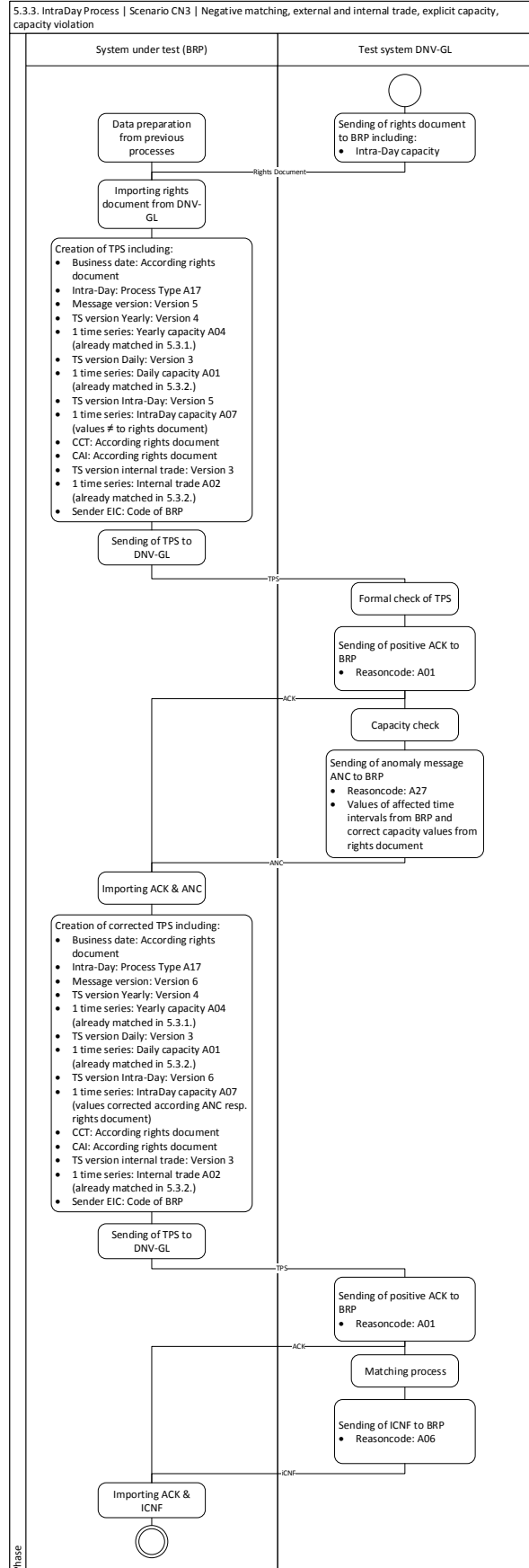
	<ul style="list-style-type: none"> • Capacity Agreement Identification: According rights document from DNV-GL • Time series version: Version 3 for time series (internal trade) • 1 time series with: Business type «A02» internal trade which was already matched in scenario CN2 • Sender EIC code of BG
3	<p>For formally correct TPS: Sends a positive ACK message</p> <ul style="list-style-type: none"> • Reason code A01
4	<p>Sends an anomaly message ANC:</p> <ul style="list-style-type: none"> • Reason code A27 • The ANC contains 2 time series: <ul style="list-style-type: none"> • Time series with affected time interval from BRP for relevant trade • Time series with correct capacity for affected time interval according the rights document for relevant trade
5	<p>BRP sends a corrected TPS:</p> <ul style="list-style-type: none"> • TPS is set up according the matched time series from previous processes • TPS is set up according the rights document from DNV-GL <ul style="list-style-type: none"> • The Intra-Day time series (Intra-Day capacity) is corrected according the values in the rights document for hour 20:00 – 21:00 • Message version: Increased to version 6 • Time series version: Version 6 for Intra-Day time series • Time series version: Version 4 for Long-Term time series • Time series version: Version 3 for Day-Ahead time series • Intra-Day: Process type A17 • 1 time series with: Business type «A03» (External trade explicit capacity) which was already matched in scenario CN1 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A04» (Yearly) • 1 time series with: Business type «A03» (External trade explicit capacity) for Day-Ahead capacity which was already matched in scenario CN2 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A01» (Daily) • 1 time series with: Business type «A03» (External trade explicit capacity) for Intra-Day capacity <ul style="list-style-type: none"> • Capacity contract type: Border CH-FR: «A07» (Intra-Day Contract) • Capacity Agreement Identification: According rights document from DNV-GL

<ul style="list-style-type: none"> • Time series version: Version 3 for time series (internal trade) • 1 time series with: Business type «A02» internal trade which was already matched in scenario CN2 <p>Sender EIC code of BG</p>	
6	<p>For formally correct TPS: Sends a positive ACK message</p> <ul style="list-style-type: none"> • Reason code A01
7	<p>For TPS with corrected content: Sends an intermediate confirmation</p> <ul style="list-style-type: none"> • Reason code A06

Note:

The scenario is based on the assumption that the schedule message for a trade partner contains only one schedule time series: i.e. it is assumed that all schedule time series are processed with different market players.

5.3.3.1. Matching process Intra-day, capacity violation, sequence diagram



5.3.4. Matching process Intra-Day, Intra-Day timing (internal trade), test description

Scenario:	CN4
Execution:	For all registered BG mandatory
Purpose:	Matching process Intra-day, external and internal trade (incl. all time series from previous processes), Intra-Day timing
Note:	External Long-Term time series (yearly) from scenario CN1 resp. CN2, external Day-ahead time series (daily) from scenario CN2, internal time series from scenario CN2 and external Intra-Day time series (Intra-Day) from scenario CN3. BRP sends TPS with internal Intra-Day time series which exceeds the deadline for nomination. After negative ACK the BRP sends a corrected TPS.
Timing:	D after 20:45 (the values have to fulfil the already matched Long-Term, Day-Ahead and Intra-Day time series). Internal Intra-Day time series have to be changed for time period 21:00 – 22:00

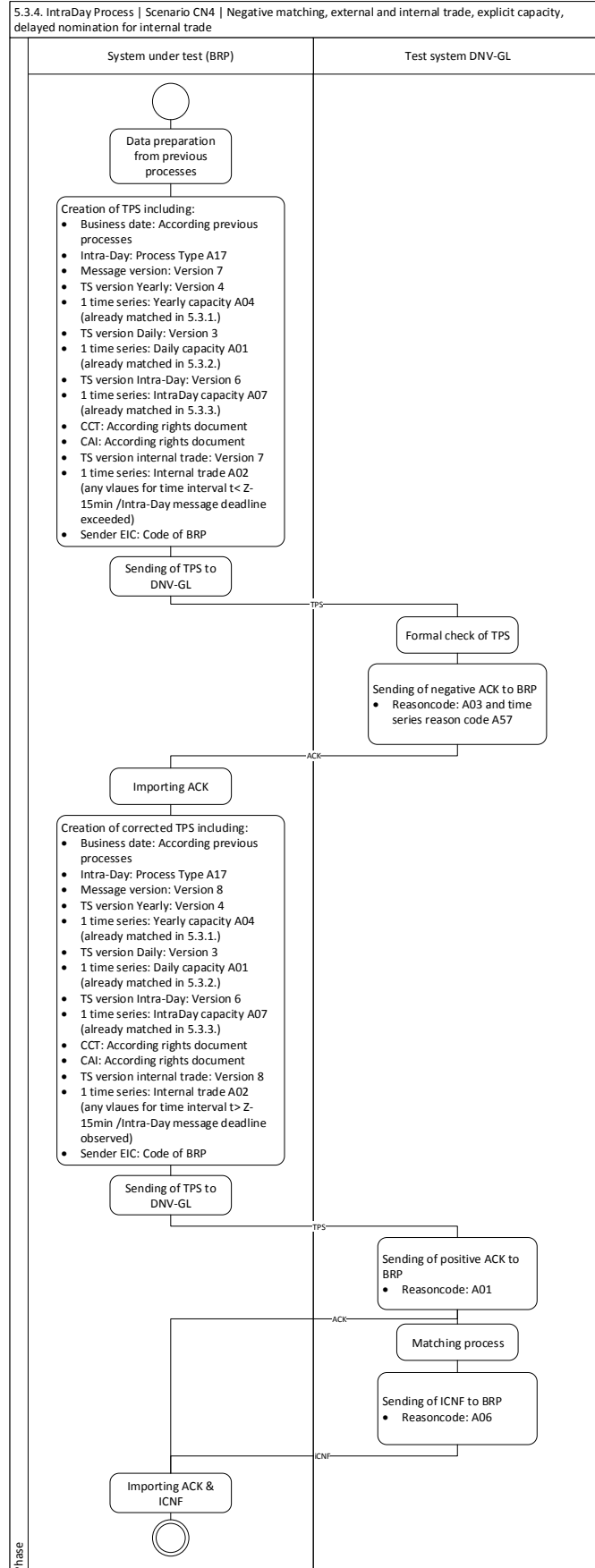
#	System Under Test	DNV-GL Test System
1	<p>BRP sends a TPS:</p> <ul style="list-style-type: none"> • TPS is set up according the matched time series from previous processes • TPS is set up according the rights document from DNV-GL • Message version: Increased to version 7 • Time series version: Version 6 for Intra-Day time series • Time series version: Version 4 for Long-Term time series • Time series version: Version 3 for Day-Ahead time series • Intra-Day: Process type A17 • 1 time series with: Business type «A03» (External trade explicit capacity) which was already matched in scenario CN1 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A04» (Yearly) • 1 time series with: Business type «A03» (External trade explicit capacity) for Day-Ahead capacity which was already matched in scenario CN2 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A01» (Daily) • 1 time series with: Business type «A03» (External trade explicit capacity) for Intra-Day capacity which was already matched in scenario CN3 <ul style="list-style-type: none"> • Capacity contract type: Border CH-FR: «A07» (Intra-Day Contract) • Capacity Agreement Identification: According rights document from DNV-GL • Time series version: Version 7 for time series (internal trade) • 1 time series with: Business type «A02» internal trade and any adjusted values for time interval t< Z-15 minutes resp. 21:00 – 22:00 (Intra-Day message deadline exceeded) • Sender EIC code of BG 	

2		<p>Sends a negative ACK message</p> <ul style="list-style-type: none"> Reason code A03 and time series reason code A57
3	<p>BRP sends a corrected TPS:</p> <ul style="list-style-type: none"> TPS is set up according the matched time series from previous processes TPS is set up according the rights document from DNV-GL Message version: Increased to version 8 Time series version: Version 6 for Intra-Day time series Time series version: Version 4 for Long-Term time series Time series version: Version 3 for Day-Ahead time series Intra-Day: Process type A17 1 time series with: Business type «A03» (External trade explicit capacity) which was already matched in scenario CN1 <ul style="list-style-type: none"> Capacity contract type: Border CH-IT: «A04» (Yearly) 1 time series with: Business type «A03» (External trade explicit capacity) for Day-Ahead capacity which was already matched in scenario CN2 <ul style="list-style-type: none"> Capacity contract type: Border CH-IT: «A01» (Daily) 1 time series with: Business type «A03» (External trade explicit capacity) for Intra-Day capacity which was already matched in scenario CN3 <ul style="list-style-type: none"> Capacity contract type: Border CH-FR: «A07» (Intra-Day Contract) Capacity Agreement Identification: According rights document from DNV-GL Time series version: Version 8 for time series (internal trade) 1 time series with: Business type «A02» internal trade and any adjusted values for time interval t< Z-15 minutes resp. 21:00 – 22:00 (Intra-Day message deadline observed) Sender EIC code of BG 	
4		<p>For formally correct TPS:</p> <p>Sends a positive ACK message</p> <ul style="list-style-type: none"> Reason code A01
5		<p>For TPS with correct content:</p> <p>Sends an intermediate confirmation</p> <ul style="list-style-type: none"> Reason code A06

Note:

The scenario is based on the assumption that the schedule message for a trade partner contains only one schedule time series: i.e. it is assumed that all schedule time series are processed with different market players

5.3.4.1. Matching process Intra-Day, Intra-Day timing (internal trade), sequence diagram



5.3.5. Matching process PSA, adjustment of external time series, test description

Scenario:	CN5
Execution:	For all registered BG mandatory
Purpose:	Matching process Post scheduling adjustment, external and internal trades (incl. all time series from previous processes). Adjustment of external time series in PSA.
Note:	External Long-Term time series (yearly) from scenario CN1 resp. CN2, external Day-ahead time series (daily) from scenario CN2, external Intra-Day time series (Intra-Day) from scenario CN3 and internal time series from scenario CN4. BRP sends TPS with adjustment of external time series. After negative ACK the BRP sends a corrected TPS with external time series as previous matched and one internal time series with adapted values.
Timing:	D+1 00:00 till D+2 16:00 External time series has to be changed for time period 14:00 – 15:00

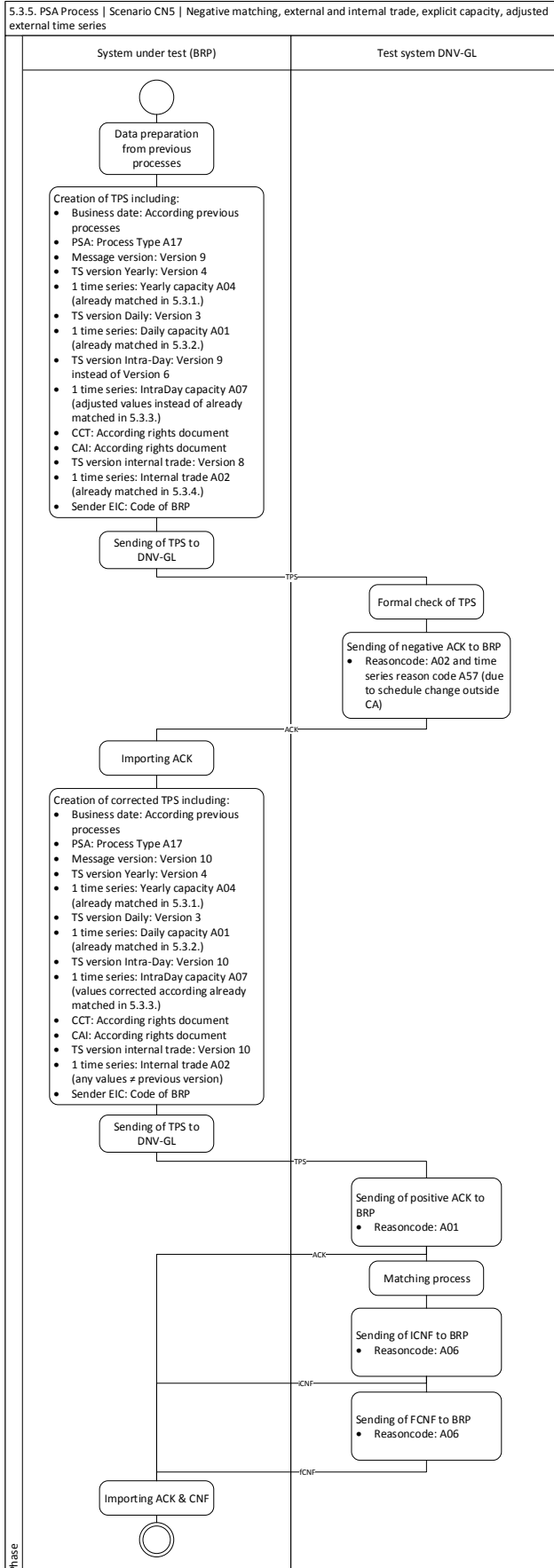
#	System Under Test	DNV-GL Test System
1	<p>BRP sends a TPS:</p> <ul style="list-style-type: none"> • TPS is set up according the matched time series from previous processes • Message version: Increased to version 9 • Time series version: Version 9 for Intra-Day time series • Time series version: Version 4 for Long-Term time series • Time series version: Version 3 for Day-Ahead time series • Intra-Day: Process type A17 • 1 time series with: Business type «A03» (External trade explicit capacity) which was already matched in scenario CN1 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A04» (Yearly) • 1 time series with: Business type «A03» (External trade explicit capacity) for Day-Ahead capacity which was already matched in scenario CN2 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A01» (Daily) • 1 time series with: Business type «A03» (External trade explicit capacity) for Intra-Day capacity which was already matched in scenario CN3 but with adjusted values for PSA in hour 14:00 – 15:00 (any values ≠ previous version) <ul style="list-style-type: none"> • Capacity contract type: Border CH-FR: «A07» (Intra-Day Contract) • Capacity Agreement Identification: According rights document from DNV-GL • Time series version: Version 8 for time series (internal trade) • 1 time series with: Business type «A02» internal trade which was already matched in scenario CN4 • Sender EIC code of BG 	
2		<p>Sends a negative ACK message</p> <ul style="list-style-type: none"> • Reason code A02 and time series reason code A57 (due to schedule change in schedule outside control area)

3	<p>BRP sends a corrected TPS:</p> <ul style="list-style-type: none"> • TPS is set up according the matched time series from previous processes • Message version: Increased to version 10 • Time series version: Version 10 for Intra-Day time series • Time series version: Version 4 for Long-Term time series • Time series version: Version 3 for Day-Ahead time series • Intra-Day: Process type A17 • 1 time series with: Business type «A03» (External trade explicit capacity) which was already matched in scenario CN1 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A04» (Yearly) • 1 time series with: Business type «A03» (External trade explicit capacity) which was already matched in scenario CN1 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A04» (Yearly) • 1 time series with: Business type «A03» (External trade explicit capacity) for Day-Ahead capacity which was already matched in scenario CN2 <ul style="list-style-type: none"> • Capacity contract type: Border CH-IT: «A01» (Daily) • 1 time series with: Business type «A03» (External trade explicit capacity) for Intra-Day. This time series is corrected to the values which were already matched in scenario CN3 (version 8) <ul style="list-style-type: none"> • Capacity contract type: Border CH-FR: «A07» (Intra-Day Contract) • Capacity Agreement Identification: According rights document from DNV-GL • Time series version: Version 10 for time series (internal trade) • 1 time series with: Business type «A02» internal trade with adjusted values for PSA in hour 14:00 – 15:00 (any values ≠ previous version) • Sender EIC code of BG
4	<p>For formally correct TPS: Sends a positive ACK message</p> <ul style="list-style-type: none"> • Reason code A01
5	<p>For TPS with correct content: Sends an intermediate confirmation</p> <ul style="list-style-type: none"> • Reason code A06
6	<p>For TPS with correct content: Sends a final confirmation</p> <ul style="list-style-type: none"> • Reason code A06

Note:

The scenario is based on the assumption that the schedule message for a trade partner contains only one schedule time series: i.e. it is assumed that all schedule time series are processed with different market players.

5.3.5.1. Matching process PSA, adjustment of external time series, sequence diagram



5.4. Additional negative tests

In this chapter additional negative tests are described.

5.4.1. Matching process Day-ahead, imposed time series procedure, test description

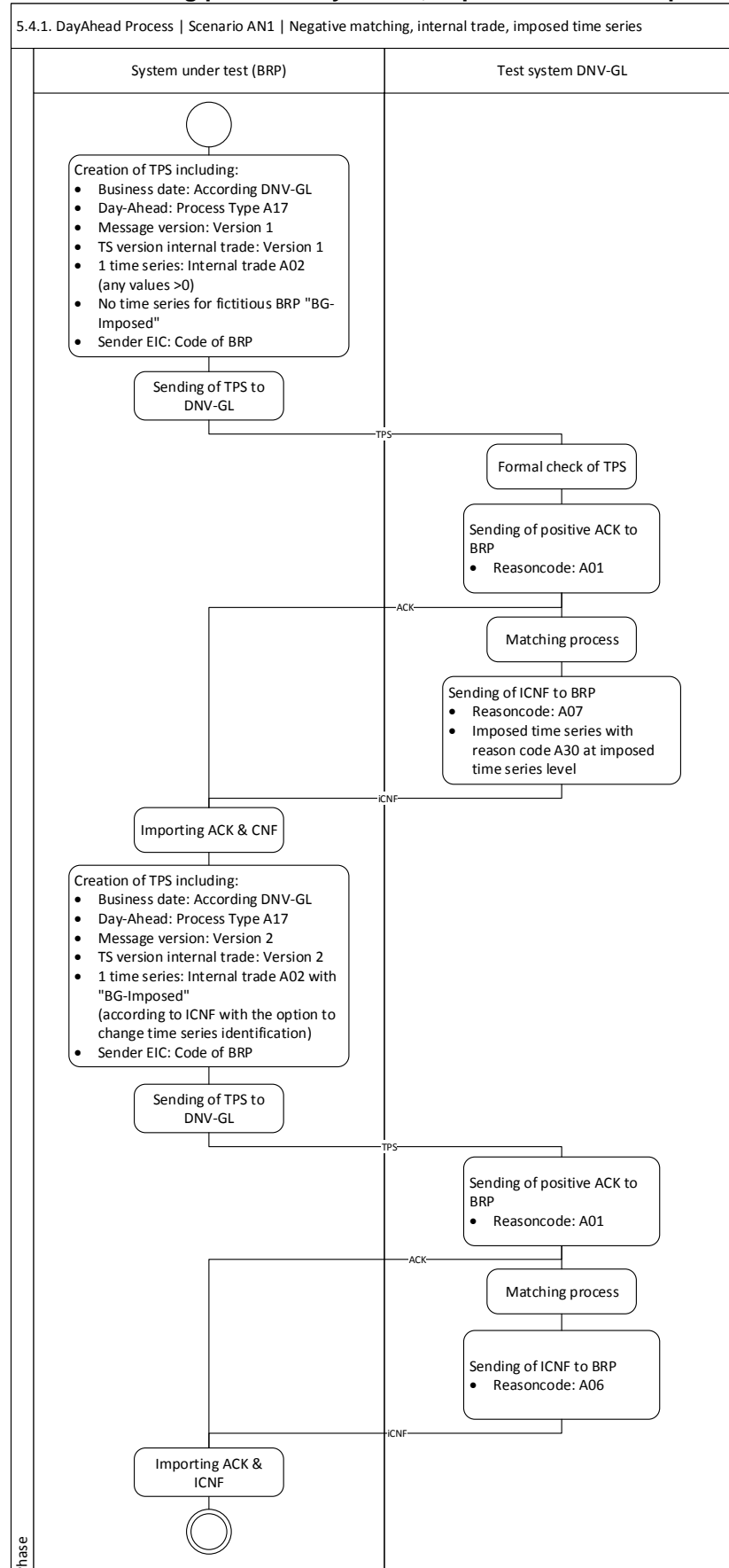
Scenario:	AN1
Execution:	For all registered BG mandatory
Purpose:	Imposed TS procedure for new registration (no prerequisites for this test)
Timing:	D-1 before 14:30

#	System Under Test	DNV-GL Test System
1	BRP sends a TPS: <ul style="list-style-type: none"> • Day-ahead (process type A17) • Business type: A02 (internal trade) • 1 time series internal trade • Sender EIC code of BG • Values > 0 • No time series for fictitious balance group «BG-Imposed» 	
2		For formally correct TPS: Sends a positive ACK message <ul style="list-style-type: none"> • Reason code A01
3		For TPS with this content: Sends an intermediate confirmation <ul style="list-style-type: none"> • Reason code A07 at message level and an additional imposed time series with reason code A30 at imposed time series level
4	BRP sends a TPS: <ul style="list-style-type: none"> • Day-ahead (process type A17) • Business type: A02 (internal trade) • Sender EIC code of BG • New time series added to BG-Imposed according to ICNF with the option to change the time series identification 	
5		For formally correct TPS: Sends a positive ACK message <ul style="list-style-type: none"> • Reason code A01
6		For TPS with correct content: Sends an intermediate confirmation <ul style="list-style-type: none"> • Reason code A06

Note:

- The schedule message and schedule time series must have the same (incremented) version number
- EIC of BG-Imposed is 12XBG-IMPOSED—O
- The BRP can change the time series ID indicated in the ICNF for BG-Imposed once

5.4.1.1. Matching process Day-ahead, imposed time series procedure, sequence diagram



6. Optional tests

6.1. Status request procedure, test description

Scenario:	O1
Execution:	Optional
Purpose:	Status Request requesting status of TPS
Timing:	D

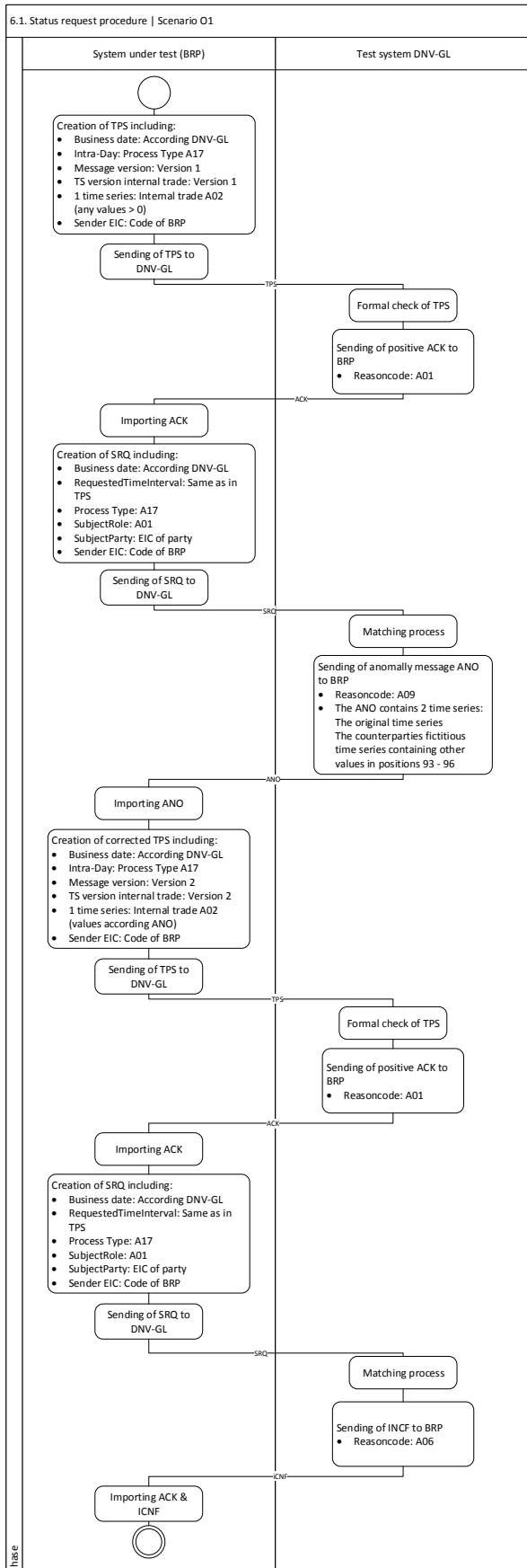
#	System Under Test	DNV-GL Test System
1	BGM sends a TPS: <ul style="list-style-type: none"> • Intra-Day (process type A17) • 1 time series (internal trade) with any values > 0 • Sender EIC code of BG 	
2		For formally correct TPS: Sends a positive ACK message <ul style="list-style-type: none"> • Reason code A01
3	BGM sends a SRQ: <ul style="list-style-type: none"> • RequestedTimeInterval same as in ScheduleMessage • Sender EIC code of BG • SubjectParty: EIC code of party • SubjectRole: A01 • ProcessType: A17 	
4		Sends an anomaly message <ul style="list-style-type: none"> • Reason code A09 (schedule differences). The ANO contains 2 time series: The original time series and the counterparty's fictitious time series, containing other values in position 93 – 96
5	BGM sends a corrected TPS: <ul style="list-style-type: none"> • Intra-Day (process type A17) • Time series with the corrected values from the counter message in positions 93 – 96 • Message and time series versions are increased 	
6		For formally correct TPS: Sends a positive ACK message <ul style="list-style-type: none"> • Reason code A01
7	BGM sends a SRQ: <ul style="list-style-type: none"> • RequestedTimeInterval same as in ScheduleMessage • Sender EIC code of BG 	
8		Sends an intermediate confirmation: <ul style="list-style-type: none"> • Reason code A06

Note:

- Status request can be sent only after a TPS has been sent

- A Status request does not depend on whether an answer file from the regular process was already sent or not
- When this optional scenario is started it must be followed completely

6.1.1. Status request procedure, sequence diagram



7. Communication and configuration tests (schedule operation)

7.1. General

- The communication and configuration tests are performed with the productive Swissgrid balance group system
- Configuration tests must be performed separately for each balance group
- Standard as well as standby connections (if applicable) are each tested once during communication tests. E-mail communication is always the first to be tested

7.2. Communication and configuration testing of the e-mail connection

Execution:	Only relevant for new registrants
Communication path:	E-mail
Purpose:	To verify the e-mail communication path and balance group configuration (EIC code, business relationships)
Timing:	D-1 before 10:00

#	System Under Test	Swissgrid BG Productive System
1	BRP sends via e-mail a Day-ahead TPS containing all business relationships of the BRP with this BG including CONS time series for BG with metering points: <ul style="list-style-type: none"> • Use only internal business relationships • Business type: A02 (internal trade) • All values must be set to 0 	
2		Incoming message test Sends a positive ACK message (reason code A01) if everything is in order. Sends no ACK or a negative ACK message with the relevant reason codes if a schedule message error or system configuration error has been identified.
3	Evaluation of ACK message and feedback on correct receipt to Swissgrid: <ul style="list-style-type: none"> • If necessary, make corrections and repeat test from step 1 	

Note:

- The TPS contains all currently known internal business relationships within Swissgrid (both directions, values = 0)
- The TPS does not contain any external business relationships

7.3. Communication test of FTP link

Execution:	Only relevant for new registrants
Communication path:	FTP over internet
Purpose:	To verify the FTP communication path
Timing:	D-1 before 10:00

#	System Under Test	Swissgrid BG Productive System
1	BRP sends via FTP link a Day-ahead TPS containing all business relationships of the BRP with this BG including CONS time series for BG with metering points: <ul style="list-style-type: none"> • Use only internal business relationships • Business type: A02 (internal trade) • All values must be set to 0 	
2		Incoming message test Sends a positive ACK message (reason code A01) if everything is in order. Sends no ACK or a negative ACK message with the relevant reason codes if a schedule message error or system configuration error has been identified.
3	Evaluation of ACK message and feedback on correct receipt to Swissgrid: <ul style="list-style-type: none"> • If necessary, make corrections and repeat test from step 1 	

Note:

- The TPS contains all currently known internal business relationships within Swissgrid (both directions, values = 0)
- The TPS does not contain any external business relationships