Nomination of Schedules in Germany

using the ENTSO-E Scheduling System (ESS)

Version: 2
Release: 1
Date: 01/12/2010

Revision history

Version	Date	
0.3	25.06.2003	Draft
1.0	06.08.2003	Publication
1.1	15.12.2004	Section 4.4 Status Request Change to the workflow and the description following the decision of the PG FPM on 08/12/2004. If a Final Confirmation Report has already been sent by the TSO for a day in question, a Status Request is also replied to in the future with a Final Confirmation Report.
2.0	01.01.2007	Automated IntraDay process same as StromNZV
2.1	01.12.2010	Automated IntraDay process same as StromNZV Shortening of the lead time to generally 15 minutes.

Contents:

PG Scheduling Management

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1 Introduction

The operative prerequisites for cross-border electricity exchange are to be improved further given the advancing liberalisation of electricity markets in Europe and the increasing number of transactions and players. In particular, the data formats and names of market parties are to be standardised on European level so that international information and data exchange by electronic means can run smoothly.

For this, as part of the unification of European transmission grid operators, ENTSO-e, the "EDI" working group was commissioned to develop a new European-wide, standardised schedule format, the ESS (**E**NTSO **S**cheduling **S**ystem) [2].

Following the successful introduction of the "ESS" schedule format for operative usage in 2003 in Germany, Switzerland, Austria and Luxembourg, different changes and improvements have arisen on the basis of growing requirements.

With the requirements arising from StromNZV (Stromnetzzugangsverordnung (Electricity Grid Access Ordinance)) for cross-control area schedule registrations, other improvements have arisen that need to be taken into consideration.

- Explained in Section 2 is how the power and energy exchange between balance responsible parties is represented in the ESS in line with the regulations laid down in StromNZV.
- Section 3 represents the ESS data exchange process mapped to the German market model.
- Explained in Section 6 are the parameters with which the entso-e ESS data formats have to be completed.
- Section 7 provides information on file name and ID conventions and so describes the naming conventions.
- The following additional information is in the appendix:
    - Document references.
    - Explanation of the most important terms in the glossary;
    - Description of the process phases of schedule management;
    - List of the different TSO acceptance inspections.

1.1 Notes on the fonts used

- Examples are shown in *italic*.

- File names and ID conventions are shown in `Courier`.

- Mandatory entries and limitations within the Schedule Message are specified in **Old Style Bold**.

- Terms explained in the glossary are shown as ***hyperlinks*** when used for the first time.

Note:
   For the examples and images, no EIC names are used because they are too long for showing in the images.

2 Business types

In each of the control areas in control block Germany, there can be any number of balance responsible parties (BRP) that can conduct business with each other (see Fig. 2-1).

The business types arising here can be differentiated into two types - internal transactions and transactions across control area boundaries. Additionally, both types are divided into subgroups (see Tab. 2-1).

All these businesses are reported to the TSO via "schedules".

Only the balance of the businesses between the balance responsible parties requires specifying in the schedules.
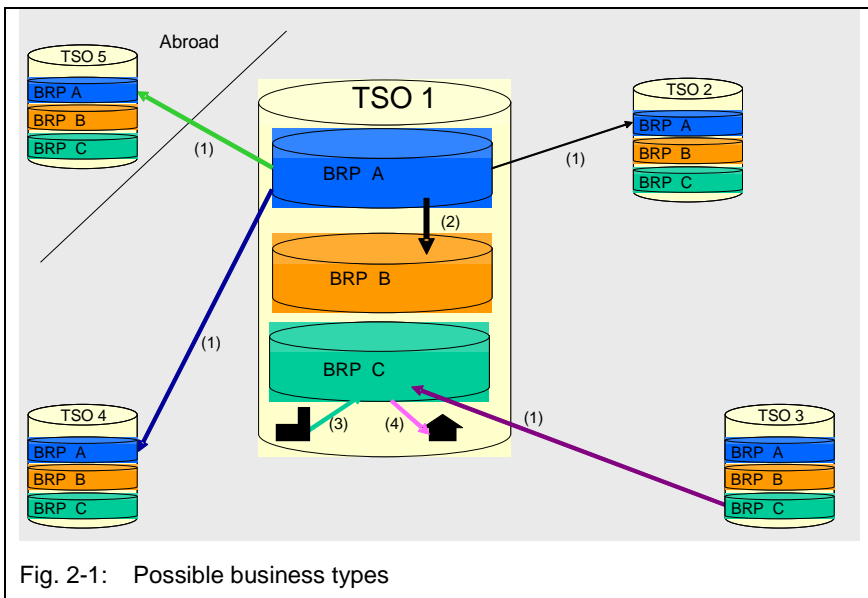
Fig. 2-1:   Possible business types

Tab. 2-1: Business types

A)		External
	(1)	Cross-control area business within Germany and cross-national border business
B)		Internal
	(2)	Business between balance responsible parties within a control area
	(3)	Production forecast
	(4)	Consumption forecast

Below, the business types mentioned above are described in more detail and the schedules required for them given.

2.1   Cross-control area business

For cross-control area business, the BRP must nominate the buyer/seller outside the particular control area such that it can be identified uniquely by the TSO of the destination/source country (or control area), and such that the schedule can be assigned uniquely to trading partners. In this case, the business in question being reconcilable and comprehensible for every control area must be guaranteed for both TSOs.

Within Germany, cross-control area business may only be transacted between the balance responsible parties of the same balance responsible party (BRP). (*1BRP nomination*)
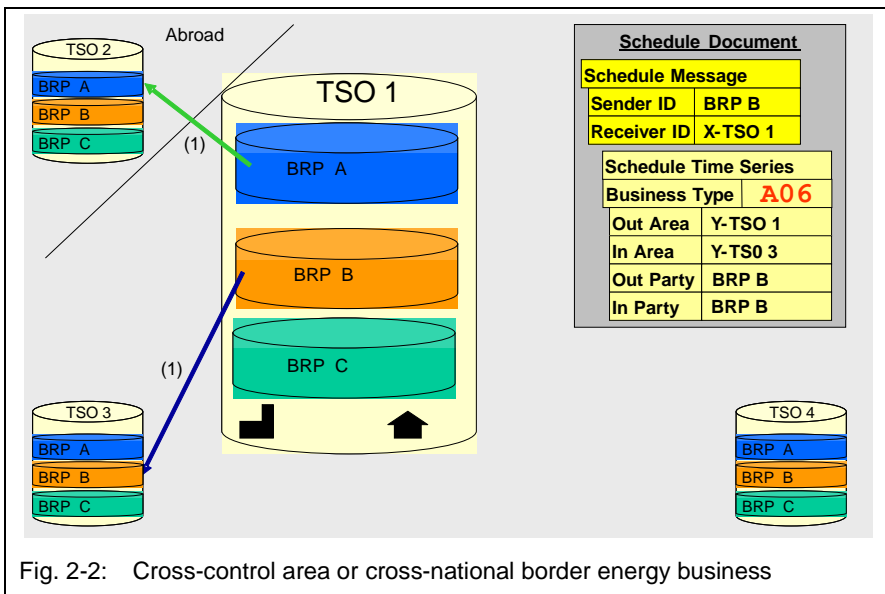
Fig. 2-2:   Cross-control area or cross-national border energy business

Shown in Fig. 2-2 is an extract from a cross-control area schedule registration within Germany of balance responsible party B (of trading partner B).

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In Appendix E is an overview of the links of the four German TSOs to foreign TSOs.

2.1.1 Comparison of Business Types A03 and A06

In the ESS, a cross-control area time series can be denoted with two different Business Types depending on the rules agreed for the border.

Business Type	Description
A06	Cross-control area time series without use of certificates (Capacity Contract Type and Capacity Agreement Identification). This process is used for example for cross-control area schedules within Germany.
	Capacity Contract Type and Capacity Agreement Identification may also not be specified in this case.
A03	Cross-control area time series using certificates (Capacity Contract Type and a Capacity Agreement Identification). This process is used for example for cross-control area schedules for selected foreign borders.
	A check is performed (as part of the receiving inspections - see Section 3.1) on whether these elements exist. If not, the relevant schedule file is rejected as erroneous.

Specification of the Business Type makes reference to whether Capacity Contract Type and Capacity Agreement Identification have been specified or not. These two values are allocated as required by an auction office for explicit congestion auctions.

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2.2   Internal control area business

2.2.1   Business between balance responsible parties within a control area

Within a control area, schedule business between all balance responsible parties permitted in the respective control area is possible.

The balance of this business is also reported to the TSO.
Schedule registration must always be performed by both balance responsible parties involved.

In Fig. 2-3 an extract is shown from the schedule registration of trading partner A. Trading partner B must send an appropriate schedule registration (= schedule file) containing a counter-schedule with identical values.
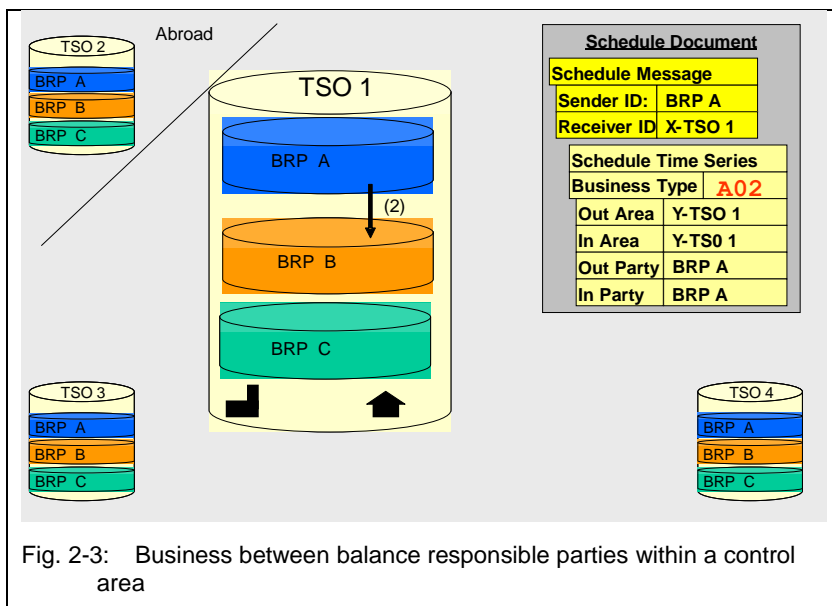
Fig. 2-3:   Business between balance responsible parties within a control area

2.3   Forecast schedules for the energy generation and consumption within a balance responsible party

Under the terms of StromNZV, market participants are committed to reporting a complete and balanced schedule.
Production and consumption forecast schedules must be specified.

2.3.1   Production forecast

The total time series of all generation units assigned to the relevant balance responsible party via metering points in the control area must be sent to the respective TSO as the generation forecast.

Special Business Type "A01" is provided for this in the ESS. (see Fig. 2-4).
The trader's production forecast can be submitted using this identification code.

`11XFC-PROD----E` must be entered as the Out Party and one's own balance responsible party as the In Party.
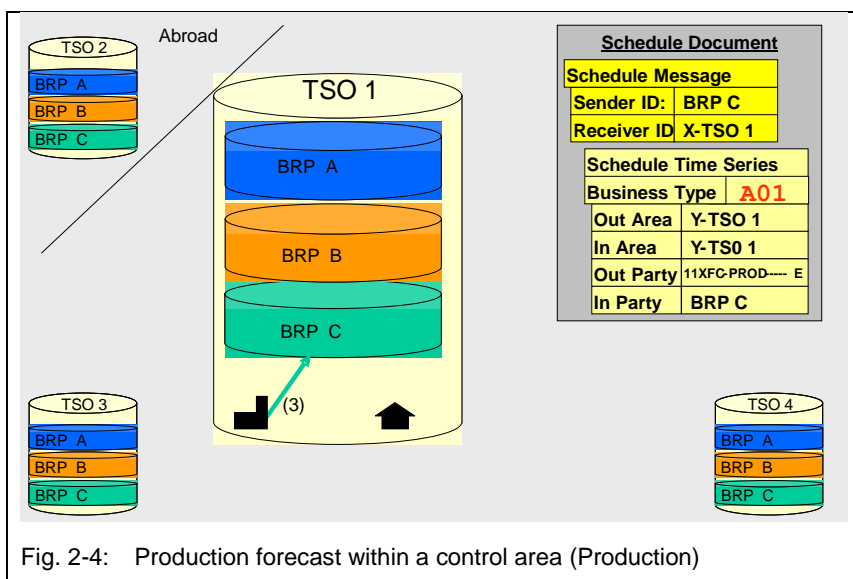
Fig. 2-4:   Production forecast within a control area (Production)

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2.3.2 Consumption forecast

The total time series of all consumers assigned to the relevant balance responsible party via metering points in the control area must be sent to the respective TSO as the consumption forecast.

Special Business Type "A04" is provided for this in the ESS. (see Fig. 2-5). The trader's consumption forecast can be submitted using this identification code.

`11XFC-CONS----0` must be entered as the In Party and one's own balance responsible party as the Out Party.
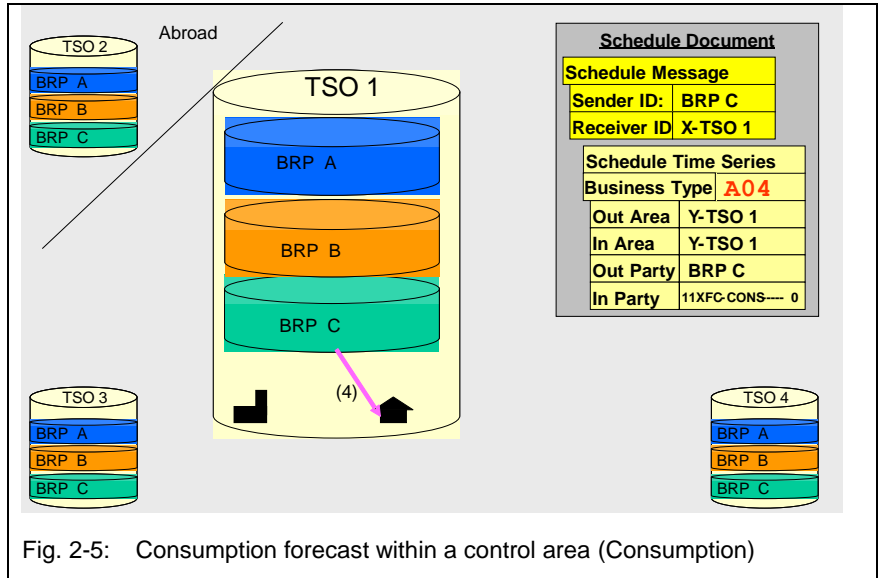
Fig. 2-5:   Consumption forecast within a control area (Consumption)

The communication of consumption and forecast schedules, together with the accounting-relevant schedules sent, means the TSO is able to conduct a verification of the balancing of the reported portfolio of the balance responsible party.

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3 **The ESS data exchange process in the German market model**

The data exchange process as shown in the ESS Implementation Guide (see [2] for data format ESS 2.3) describes the basic binding processes and role models on the basis of which data exchange for settling energy traffic in the individual countries must be organised.

The ESS Implementation Guide permits several alternative possibilities that perform individual process steps. Also, the market models in the countries can specify in part the settlement of process steps.

For this reason, the process illustration described in the ESS for the German market model must be substantiated, rendered more precisely and defined in detail for the German market.

3.1 **Acknowledgement message and acceptance inspection**

Upon receipt of a schedule registration (Schedule Message) at a TSO, the message is subjected to various checks (see Fig. 3-1).

The first step is to check whether the message sent is an XML file and whether it matches the valid DTD or XML format.

If not, the sender is returned an informal text message making reference to the problem. The erroneous Schedule Message is not processed any further.

The sender can then send a corrected Schedule Message with the same Message Version.

If the Schedule Message has a valid

Fig. 3-1: Acknowledgement message and acceptance inspection

DTD/XML format, i.e. it is "valid", the acceptance inspection of data can be performed.
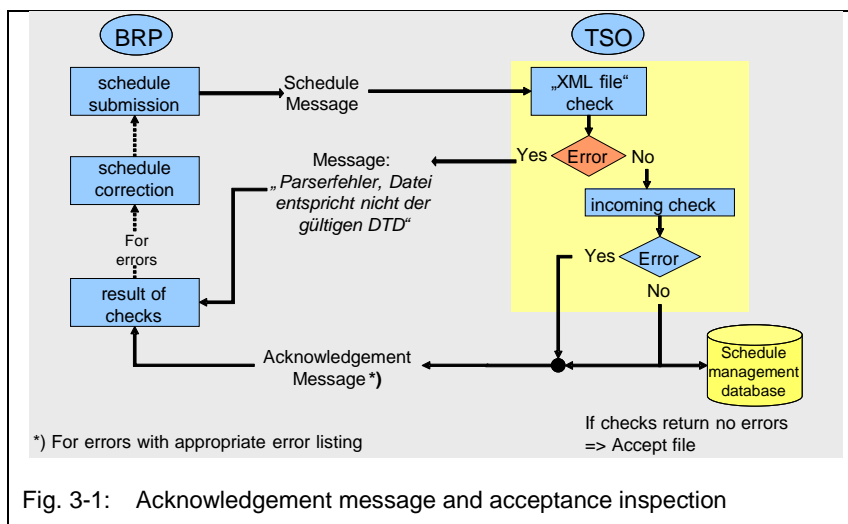
The acceptance inspection includes all tests which do not require any data of other market participants.

An Acknowledgement Message with one of the following identifiers is returned to the sender as the result of the acceptance inspection.

- **Acceptance inspection without errors:** In case of an error-free result, the Reason Code "A01" (Message fully accepted) is returned. The data is then copied in this format into the relevant database system (accepted). Results and inconsistencies found in the context of the inspections that do not themselves lead to rejection of the schedule message are added as required.

- **Acceptance Inspection with errors:** On the other hand, if the acceptance inspection detects serious errors, the whole message is rejected with the Reason Code "A02" (Message fully rejected). In addition, a list of errors detected is added to the Acknowledgement Message.

As a result of the acceptance inspection, the positive Acknowledgement Message simply contains a declaration that the data of the Schedule Message sent was correct in this form and could be accepted. The Acknowledgement Message does not contain any information about data quality (with the exception of balance differences of the portfolio sent).

The Acknowledgement Message is also the acceptance confirmation to a sent Schedule Message, i.e. only upon receipt receipt of this message the sender can assume that the schedules have arrived at the recipient TSO.

In contrast to text messages, ESS reports (ACK, ANO, CNF) are only ever sent to the communication addresses stored in the master data in the event of parser errors, regardless of who was the sender of the Schedule Message.

3.2   Anomaly report

After completion of the reception process (data receipt and acceptance inspection), there is an initial verification of the received data of the respective balance responsible party.

At the process step "Transmission of Anomaly Reports", a differentiation is made between transactions within and beyond the control area . This differentiation is mainly regarding the time at which the data inspection is performed.

- For **transaction within the control area**, an inspection is possible after the receipt of the corresponding trading partner's data.

- **Cross-control area** transactions can be fully checked not until the gate closure time because for this the counter applications of neighbouring TSOs are required (exchanged for the first time immediately after the gate closure time).

By the nature of the process cycle a trading partner can potentially receive multiple Anomaly Reports which, in addition to the discrepancies already reported, list other recognised errors.

3.2.1   Transactions within the control area

After completion of the reception process (data receipt and acceptance inspection), there is an initial verification of the received data of the respective balance responsible party. This means, after the reception process, an inspection is performed on whether Schedule Messages of other trading partners for example already exist for the business within the control area. Compliance of the data is checked in this case.

Fig. 3-2 represents the model of a verification process using the example of BRPs A and B.
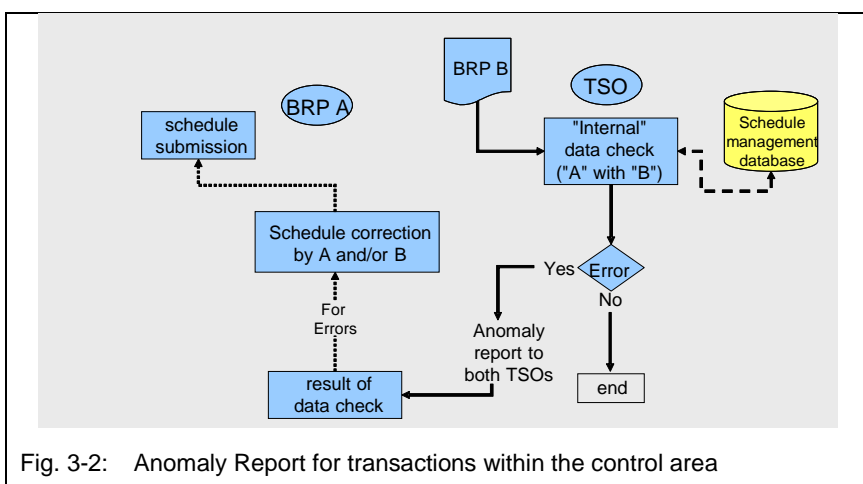
Fig. 3-2:   Anomaly Report for transactions within the control area

As soon as the Schedule Message of BRP B has arrived, and no errors are detected during the acceptance inspection, a verification test can be started.
The results are handled as follows:

- **Verification test without errors:** If no discrepancies are ascertained, the test is ended with no message to the trading partners.

- **Verification test with errors:** If discrepancies are ascertained, both trading partners concerned are sent a relevant Anomaly Report containing all known/detected errors (at the time of sending) of the trading partner concerned.
  Possible errors:

  - **Value or time mismatch:** Trading partner A registered an exchange of capacity for the time 9.00 to 10.00 am, trading partner B registered the same but for the time 10.00 to 11.00 am.

  - **Missing counter message:** One of the two BRPs reported a business between BRPs A and B, the other did not.

The time of the inspection is also relevant for the results output:
If the corresponding BRP has not submitted a schedule file, the error for the business within the control area cannot be included in the Anomaly Report until after the gate closure time for the day ahead (at 2.30 pm in Germany).

3.2.2 Cross-control area trade transactions

The gate closure time (GCT) is defined as 2.30 pm in StromNZV [4] §5 Para.1. In justifiable emergencies, the TSO can, on request, agree a delayed GCT up to 3.30 pm.

Shortly after the GCT, the TSOs reconcile the schedule registration. The BRPs are then informed of any errors and must carry out a corrected schedule registration by 3.30 pm, the cut-off time (COT) - also refer to [4] §5 Para. 1.

For border areas susceptible to congestion, validations of the schedule registrations against a capacity right are possible before the GCT depending on the auction rules. There can also be immediate sending of an Anomaly Report in this case.
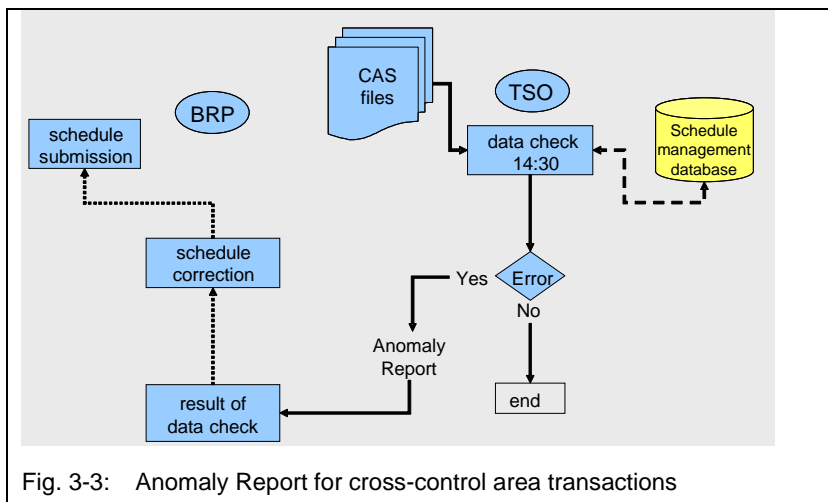
Fig. 3-3:   Anomaly Report for cross-control area transactions

The results are handled as follows:

- **Verification test without errors:** If no discrepancies are ascertained, the test is ended with no message to the BRP.

- **Verification test with errors:** If discrepancies are ascertained, the BRP in question is sent an Anomaly Report containing all errors known/ascertained at the time of sending, i.e. still existing errors within the control area can be listed here too.

After the successful reconciliation (following rectification of all discrepancies in the cross-control area registrations), the BRPs receive an Intermediate Confirmation Report.

Given that other GCTs may be defined in the neighbouring countries, other GCTs may have to be agreed for the individual borders so that a reconciliation process can be performed between the TSOs.

3.3 Status request

Because an Anomaly Report is only sent when an error regarding a counter registration is detected for a schedule, the sender only receives negative messages, i.e. if all the data is correct, the BRP does not initially receive any further information after the acknowledgement message.

The sender of a schedule file cannot therefore, before receiving a Confirmation Report, assume with 100% certainty that the data are correct, should the sender not receive any error messages.

The "Status Request" therefore provides the ability for a BRP to trigger the

Fig. 3-4:   Status request

sending of certain reports by sending a "Status Request" to the TSO to receive the current status of the registration at the respective TSO.
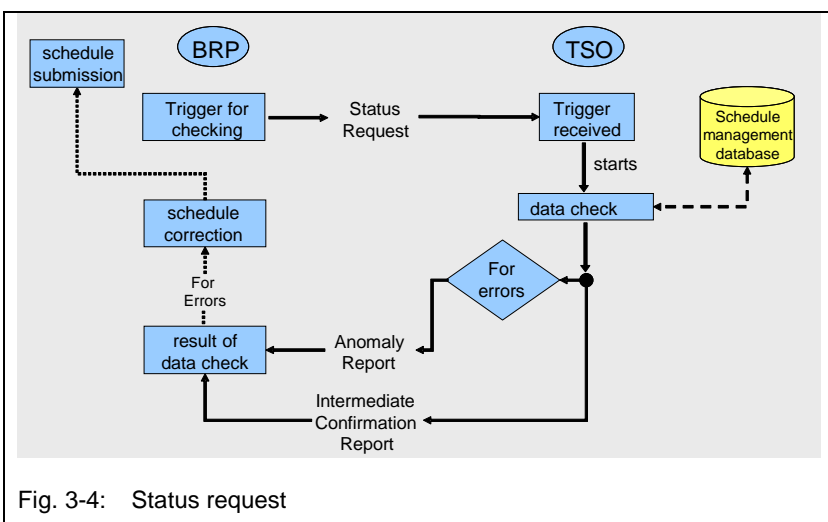
After receipt of a "Status Request" at the TSO, a verification test is run on the existing BRP data. An Intermediate Confirmation Report and an Anomaly Report or final confirmation report (depending on when the Status Request arrived) is then sent to the trading partner communication address stored in the system.

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A final confirmation report is only sent when an appropriate final confirmation report for the day in question has already been sent once by the TSO.
The data stored in the database when the Status Request arrives at the TSO forms the basis for this report.

The time of the check is also relevant for issuing the result of the Status Request:
If the corresponding BRP has not submitted a schedule file, an error for internal control area business cannot be issued in the Anomaly Report until after the gate closure time (2:30 pm in Germany).
Before this time, the business is not transacted in the confirmation report.

3.4   Confirmation Report

3.4.1   Intermediate Confirmation Report

Because schedules can change on the current day, the TSO can only send an Intermediate Confirmation Report on the previous day and also on the current day. Discrepancies existing at this time concerning the counter registration are communicated to the BRP via an additional Anomaly Report - provided they are not subjected to an alignment by the TSO.

The workflow is shown in Fig. 3-5.
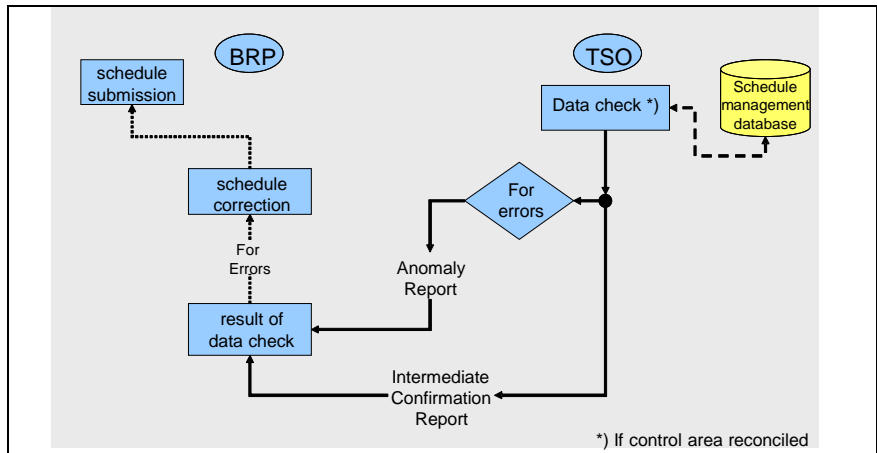
Fig. 3-5:   Intermediate Confirmation Report

3.4.2   Final confirmation report

According to StomNZV, internal control area schedules may be changed retrospectively up to 4 pm on the next working day (see also [4] §5 Para. (3)).
A final confirmation report can therefore not be sent until after this time.
The report contains the data forwarded by the schedule system of balance group accounting.
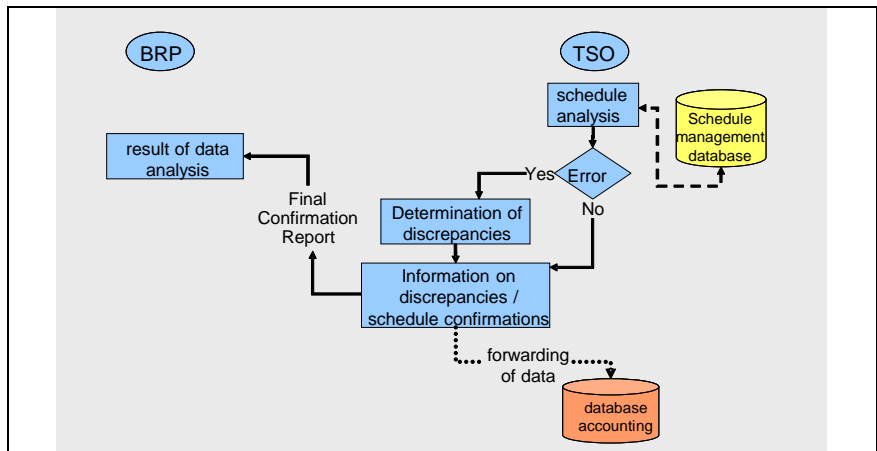
Fig. 3-6:   Final confirmation report

3.4.3 <u>Use of imposed and modified time series in an ESS confirmation report</u>

An ESS confirmation report can be returned to a market participant time series as confirmed or imposed. The following rules are defined for the German market system:

3.4.3.1 <u>Imposed Time Series</u>

A time series that has been newly added to the portfolio of a BRP by the TSO, and that previously has not been registered for this day by the BRP, is an **imposed** Time Series.

1. The Time Series ID (TS ID) is generated by the TSO because no time series with this combination has been registered by this time by the BRP and consequently there is also no TS-ID that the TSO can use. The TS-ID generated by the TSO and used for this time series is therefore called imposed TS-ID.

2. The confirmed message version is used as the version number of the imposed Time Series.

3. In case the BRP has yet to send any accepted schedule registration to the TSO for the day in question, version number 1 is returned for the imposed Time Series. In this case, the elements Confirmed MessageID and Confirmed MessageVersion are not transmitted in the confirmation report.

4. An imposed TS ID allocated by the TSO may, for a new schedule registration for the day in question, only be overwritten once with a separate TS ID - this must continuously be used by the BRP for all subsequent updates of this schedule.

3.4.3.2 <u>Confirmed Time Series with status "Modified"</u>

If values in a time series already registered are changed by the TSO, this is a **confirmed** time series **with status "Modified".**

1. The last accepted time series version sent by the BRP is retained as the version number.

2. The changed schedule must be marked in the confirmation report with appropriate reason codes on time series level (TS level) and on interval level (IV level).

3.4.3.3 <u>Status in a confirmation report</u>

Fig. 3-7 shows a status in a confirmation report.
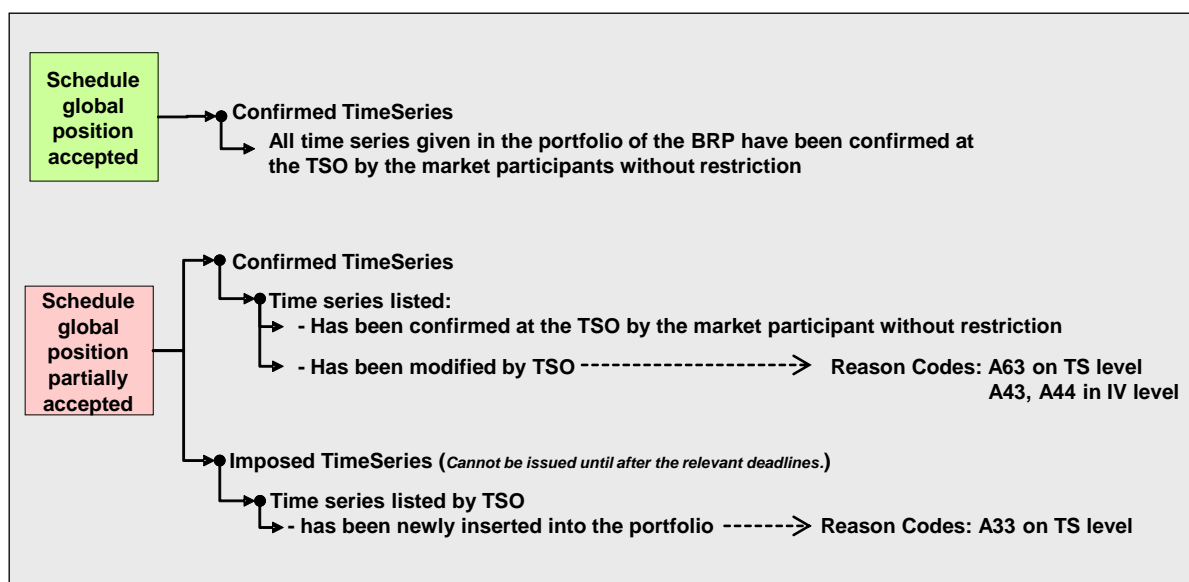
Fig. 3-7:   Status in a confirmation report

If a CNF report has status A06 (Schedule global position accepted), all schedules of the BRP have been confirmed by the TSO without changes. However, if a CNF report is assigned status A07 (Schedule global position partially accepted), how the content of the CNF report is interpreted depends on whether it is an intermediate or final CNF:

Intermediate CNF: •   The report does not necessarily include the whole portfolio of the BRP.

Single, inconsistent schedules, or those not passed by the other side, can be missing in the intermediate CNF report - they are, where applicable, sent to the BRP in a separate ANO report with details of the specific error. In the DayAhead phase, schedules only received by one side are not sent to the BRP in either the CNF or ANO report.

- The intermediate CNF report can contain time series already modified or imposed.

Final CNF:

- The report must include the whole portfolio of the BRP.
  The time series sent are binding and are used for accounting of the balance responsible party. For a final CNF report, status A07 in the message header indicates that at least one of the time series contained therein has been modified or imposed by the TSO.

4 Matching rules

The following matching rules apply for schedule registrations within Germany.
The conditions listed in Appendix E apply for schedule registrations for abroad.

4.1 Special rules

For discrepancies with special balance responsible parties (such as stock exchange BRP, REL BRP or the minutes reserve BRP of the TSO), the schedule values of these special balance responsible parties are used.

4.2 Day ahead process

If, after the ***correction cycle***, it is ascertained that market participants have registered different values for schedules, or different registrations exist, they are aligned accordingly by the TSO. The ***sink rule*** is applied here.

4.3 Intraday process

Intraday schedule registrations within Germany are reconciled every ¼ hour between the German TSOs. If there is a discrepancy in the schedule registration, the market participants must correct it before the cut-off time (COT). If there is still a discrepancy at the COT, the schedule registration version last agreed applies. This means that the non-coherent schedule change last registered is cancelled.

4.4 Day after process

Internal control area schedules can be changed retrospectively up to 4 pm on the ***next working day*** (StromNZV [4] §5 Para. 3).

If, after the gate closure time, it is ascertained that market participants have registered different values, or different registrations exist, they are aligned accordingly by the TSO. Fallback to the last agreed version is executed.

5 **IntraDay changes**

5.1 **General**

The conditions for IntraDay trade are governed in StromNZV [4] §5 Par. 2 and 4. In deviation, IntraDay schedule changes within Germany can generally be registered with the TSO with a lead time of 15 minutes every ¼ hour. The legal requirements applicable in Germany necessitate as automated a reconciliation process as possible between the TSOs.

At foreign borders, bilateral agreements must be in place because the legal basis and market rules of the countries in question differ (see Appendix F).

5.1.1 **Principle of automated control area reconciliation**

Immediately after every quarter hour change, all IntraDay schedule registrations arriving before the quarter hour change in question are automatically reconciled between the German TSOs. Immediately after the reconciliation, the result of it is automatically sent to the BRP in question with an Intermediate Confirmation Report (CNF), and if discrepancies are ascertained (affects only quarter hours for which the Intraday deadline (GCT=COT) is not yet reached), with an additional Anomaly Report (ANO).

5.1.2 **Permitted frequency of schedule registration**

There is no restriction on the number or frequency of schedule changes permitted. The only limitation is through versioning (ESS: max. message / time series version = 999 per day).
However, sending schedule registrations too often can result in undesirable discrepancies between TSOs due to versioning and timing conditions. The TSOs therefore recommend not exceeding a frequency of 1 schedule registration every ¼ hour.

5.2 **IntraDay schedule registration**

If not defined otherwise, the information in this section refers only to cross-control area (external) schedule changes. Special cases for foreign borders with supply shortfall management are discussed in Appendix F.

The format of BRP schedule messages for the IntraDay process do **not** differ from those for the DayAhead process. Incoming schedule files must contain all schedules for the day in question.
The IntraDay schedule registration can be divided into two different process phases each with different attributes. Boundary conditions apply in addition.

5.2.1 **Schedule registration in process phase DayAhead Matching**

Schedule registrations with schedule changes that arrive between the GCT of the DayAhead phase and the start time of the IntraDay phase, and that are formally correct, are received by the recipient TSO by the start time of the IntraDay phase, but are **not initially processed further** and reconciled.

The BRP is sent an informal arrival confirmation in the form of a text file.

If the file contains formal errors, the BRP in question is immediately sent a formal negative acknowledgement report (ACK, with reason code A02: "Message fully rejected"). The formal check within this time is only performed against the version last processed by the TSO.

CNF and ANO that the BRP receives during this DayAhead Matching phase, or has requested with a Status Request, are generally based on the schedule registrations last processed, that form the basis for the DayAhead reconciliation of the TSOs in UCTE interconnected operation and have been confirmed to the BRP with an ACK with Reason Code A01.

Here, it is important to note that, in relation to the reconciliation, DayAhead post-messages (between GCT and COT) can be read and processed manually by the TSO. This step is shown to the BRP with the sending of CNF or ANOs.

5.2.2 **Schedule registration in process phase IntraDay**

At the start of the IntraDay phase, the last existing registration of the respective BRP that is not yet processed and that was acknowledged with a test file at the time of receipt is included in the reconciliation process of the IntraDay phase at the TSO. The TSO sends the BRP an ACK as part of the processing result.

5.2.2.1 General

In the IntraDay process phase, a schedule registration is possible at any time. The TSO immediately performs a formal check and issues a confirmation with ACK, provided the reconciliation process is not running. In this case, the incoming schedule registration of the BRP in question is reset until conclusion of the reconciliation process. The formal check and confirmation by way of ACK are done immediately after the conclusion of the reconciliation process, as part of the result of subsequent schedule registration processing. For the case of multiple BRP schedule registrations being received during the reconciliation process, chronological processing is in line with the arrival order.

It is important to note that the status of the registration at the time of the quarter hour change is reconciled in the ongoing reconciliation process for all TSOs. **This means that the BRP must guarantee that, at the gate closure time, there are identical schedule registrations for both TSOs for all remaining quarter hours.**

5.2.2.2 Gate closure time

The *__gate closure time__* is the latest time at which a file with cross-control area schedule changes must arrive at the TSOs in question. It is derived from the lead time of 15 minutes for every ¼ hour, the value of which requires changing in relation to the schedule registration currently at the TSO and accepted with ACK. Schedule registrations with cross-control area changes that are received after the gate closure time by the TSO are rejected with a negative ACK as part of the formal check.

> *Example:*
> *External schedule change between two German control areas for the current day, first change in the IntraDay schedule registration for quarter hour 14:00+14:15:*
> → *Gate closure time = 13:45*

Different lead times due to different rules abroad are listed in Appendix F .

5.2.2.3 Reconciliation: Confirmation/Anomaly Report

The reconciliation process of the TSOs starts after every GCT plus a processing time of about 1 minute. This takes a maximum of 5 minutes. If at least one schedule change has arrived since the last reconciliation process, the TSOs in question automatically exchange a file with the cross-control area schedules (CAS file). The result of the reconciliation process is sent to the BRPs in question after the end of the reconciliation process in the form of complete CNF/ANO reports.

A differentiation is made between the following scenarios in the event of inconsistencies in the schedule changes:

- **Gate closure time not yet reached**: For borders that are susceptible to supply shortfalls, schedules are first validated in line with the action rules against a shortfall right, and modified as required. The reconciliation process then follows. As part of the complete CNF/ANO report, the BRP receives the notification of discrepancies ascertained with the ANO report. The BRP has the option (depending on the auction rules), to send a correction of the change to one or both TSOs. If the discrepancy has arisen because the schedule change was not received by one of the two TSOs until after the GCT, no correction need be sent by the BRP - successful reconciliation is then part of the reconciliation process 15 minutes later.

- **Gate closure time exceeded: All** values of the non-coherent schedule changed by the BRP are overwritten (modified) with the previously valid values of the schedule version previously received and counter-acknowledged. The BRP receives a complete CNF/ANO report from the TSO. The modified schedule is part of the CNF report and the modified values are denoted as such (see the definitions on the subject of "Modified and imposed time series" in Section 3.4.3). Listed in the ANO report, where applicable, are other ascertained inconsistencies that affect other schedules and the correction of which is possible at a later time in line with market rules. This concludes the current reconciliation cycle for the BRP in question. If the BRP requires a change to the old values of modified schedule values for which the gate closure time is not yet reached, this change must be reported anew at both TSOs as part of a schedule registration. If changed schedule values miss the gate closure time when the schedule registration arrives at the TSO, there is a rejection of the complete schedule registration in the result of the acceptance inspection. The BRP receives a notification of this in the ACK report.

If inter-TSO communication is erroneous, the sending of complete CNF/ANO reports to the BRP is executed after expiry of the 5 minute time limit on the basis of the reconciliation status attained up to then. In this status,

the TSO carries on the reconciliation with manual interventions. Here, the result attained in the process is also communicated to the BRP with the sending of complete CNF/ANO reports.

6 Use of ESS data formats

6.1 Data format ESS 2.3

If a schedule registration is sent in data format ESS 2.3, the TSOs also reply with messages in the ESS 2.3 data format.

6.1.1 Mandatory entries

A BRP schedule message must contain the full data of all schedules (time series) for a calendar day. The following entries must be in the schedule message:

6.1.1.1 Message header

a) **Message identification:** This is freely definable by the balance responsible party (BRP) as part of the specifications as per [2] (P. 36, Section. 4.1.3). With the message identification, the schedule registration(s) for a calendar day at a TSO are unambiguously defined by the BRP. This means that an unambiguous message identification must be assigned by the sender for every calendar day, schedule type and recipient.

b) **Message version:** Versioning must be as in [2] Section 4.2.2.1.1 (see also **Fig. 6-1**).

- The version number restarts <u>at 1 every day</u>.

- It is kept as a message version and as a time series version.

- <u>On every change</u>, the message version is <u>incremented by 1</u>, and the modified <u>or new time series</u> is given the new number.

- Example:

	Versions no.		
	file	TimeSeries A	TimeSeries B	TimeSeries C
Initial registration	01	1	1	Not available
TimeSeries B changes	02	1	2	Not available
TimeSeries A changes	03	3	2	Not available
NewTimeSeries C	04	3	2	4

Fig. 6-1: Assignment of version numbers

c) **Message type:** "**A01**" must be entered for the schedule registration**.**

d) **Process type:** ID "**A01**" must be entered here for schedule registrations.

e) **Schedule classification type:** "**A01**" must be entered for the schedule registration and for the registration of schedules.

f) **Sender identification – coding scheme:** Code list "Coding scheme" (UID ET0004) in [2] is restricted to value "**A01**", meaning only the EIC code is permitted for the sender and can be used.

g) **Sender role:** For balance responsible partys as senders of the schedule registration, ID "**A01**" must be specified as per [2], code list (UID ET 00005).

h) **Receiver identification – coding scheme: The c**ode list "Coding scheme" (UID ET0004) mentioned in [2] is restricted to the value "**A01**", meaning only the EIC code of the recipient is permitted and can be used. As the receiver identification for the TSO, the relevant EIC "10X..." must be used and **not** EIC area code "10Y..." from the in/out entries in the time series header.

i) **Receiver role:** For the TSO as the receiver of the schedule registration, ID "**A04**" must be used as per [2] from the code list (UID ET 00005).

j) **Message date and time:** Date and time of schedule registration transfer to the TSO. UTC time must be used here (see [2], Section 4.3.10 for the format).

k) **Schedule time interval:** The start time and the end time of the day for which the schedule registration is sent must be specified in UTC time as per [2], Section 4.3.11.

> *Example:*
> *The specification of the schedule registration for 01.07.2010 is*
> *2010-06-30T22:00Z/2010-07-01T22:00Z*

6.1.1.2 Schedule time series

a) **Senders time series identification:** This is freely selectable by the balance responsible party (BRP) as part of the specifications as per [2], Section. 4.4.1.

b) **Senders time series version:** Versioning must be as in [2] Section 4.4.2.1.1 (see also **Fig. 6-1**).

c) **Business type:** The business types listed in Appendix C are permitted for the schedule registration.

d) **Product:** Because the time series only contain quarter hour power values, the XML code for active power must be used ("**8716867000016**").

e) **Object aggregation**: Only "**A01**" may be used as the entry.

f) **Metering point identification:** No entry is made here.

g) **In area; out area - coding scheme:** Entries must be in accordance with EIC. Code list "Coding scheme" (UID ET0004) mentioned in [2] is restricted to value "**A01**", hence only the EIC code for the entries is permitted and can be used.

h) **In party; out party - coding scheme:** The party identification and the associated coding scheme must be specified such that unique identification and assignment to the trading partner in the respective control area is guaranteed for the TSOs in question, and such that the schedule time series can be reconciled and reproduced. Please refer to Appendix E for details.

i) **Capacity contract type:** The values of the allocation process must be used**.** Please refer to 0for details.

j) **Capacity agreement identification:** The values of the allocation process must be used**.** Please refer to 0for details.

k) **Measurement unit:** Because all the values of the time series must be specified in MW, only "**MAW**" is permitted as a necessary specification as per the ESS code list (UID ET0011).

6.1.1.3 Period level

a) **Period/time interval:** The entry for time interval, required for every time series, must match the content and format of the specification for schedule time interval.

b) **Period/resolution:** The time series comprise solely of quarter hour values. Only "**PT15M**" is permitted as the entry as per [2], Section 4.6.2.

6.1.1.4 Interval level

a) **Interval/pos:** For every quarter hour value, the position at which the ¼ hour time interval occurs in the chronological sequence of quarter hours, must be specified. Because the quarter hour values for a calendar day are always sent (in relation to local time), values for positions 1 to 96 must be specified (on days with time change for 92 or 100 positions). Every position must be available exactly once per time series.

> *Example:*
> *The value for the quarter hour 3.00 to 3.15 local time (UTC time in summer half-year 1.00 to 1.15) has position 13.*

b) **Interval/qty:** Entered here is the value for the relevant position (quarter hour). A maximum of 3 decimal places are permitted. This means the lowest unit size that can be handled in schedule traffic is 1 kW. The decimal point is a dot and not a comma. Separators for thousands are not permitted. For all ¼h time intervals (interval position) of the day in question, a numerical value >=0 must be sent.

> *Example:*
> *The value for 3500043 kW must be entered as "3500.043".*

6.2 Specifications for all data formats

6.2.1 General

The following principles also apply for the formation/compilation of time series for registration at TSOs:

6.2.1.1 Netting

"Netted" or balanced time series must be submitted with no prefix.
All schedules to be specified are exactly one balance schedule:
The direction is not defined by a prefix but by: "In Area", "Out Area", "In Party", "Out Party".
If both directions exist in a balance, a time series is reported for every direction.
For a ¼h time interval (interval position), only one of these two schedules can be different to zero.
The netting rule does not apply at auctioned borders with usage of obligatory certificates (capacity agreement identification and capacity contract types, i.e. time series with business type A03).

6.2.1.2 Information scope for changes

The information content of a schedule registration accepted by the TSO (schedule message) may not be reduced in the event of a change or cancellation. All time series submitted to the TSO and accepted must be fully contained within for other schedule registrations for the day in question.

6.2.1.3 Cancellation of time series

If a time series has been submitted for a day and it needs to be cancelled, all values must be changed to "0", and this must be carried forward in all subsequent schedule files for the day in question.

6.2.1.4 Schedule registrations at foreign borders

The relevant bilateral regulations apply for schedule regulations at foreign borders. Please refer to Appendix F for details.

6.2.1.5 File name convention

Recommended for sending schedule messages is a unique file name as in Section 7.
The conventions in Section 7 are always used for responses from German TSOs.

6.2.2 Specification of time values

The start and end times of a schedule must be specified in UTC time format (see Section 6.1, k) and 6.1.1.3).

Fig. 6-2 represents the specification of the UTC time for a calendar day in the different time periods (winter time, summer time, and the days of the time change).
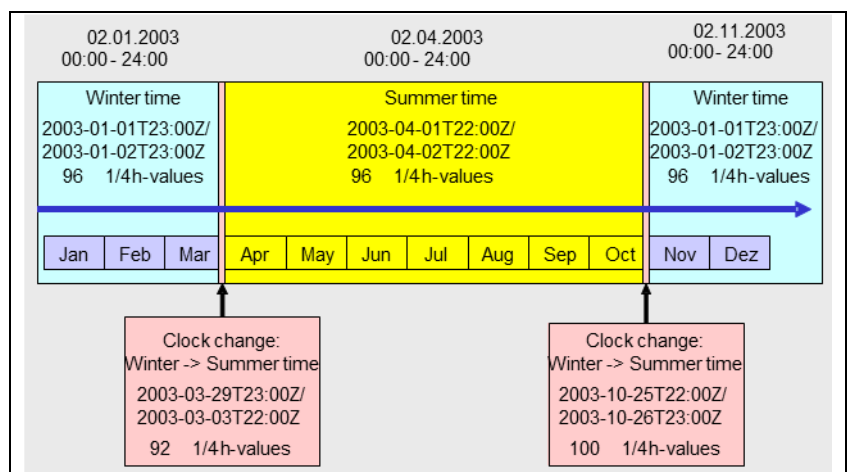
Fig. 6-2:   Start and end times of a schedule in UTC time format

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Release: 1
Date: 01/12/2010

7 Naming conventions

Electronic media are used for the exchange of schedule data.
It is conceivable that in the future most of the data is exchanged fully electronically, and that more and more "messages" of different types are exchanged using XML formats.

For manual intervention in the event of an error, unique file names are very useful to be able to correctly identify and edit the relevant file.
The following applies for the naming conventions introduced below:

- The naming conventions are recommendations.

- They are not formally checked because the information contained in the file name is also in the header of the ESS document.

- The naming convention is used for quick, manual identification of the appropriate file or email (rule: email subject = file name) so as to easily locate the relevant, original file and the associated messages.

7.1 File names

7.1.1 Schedule registrations of trading partners

- **Registration "Trading partner schedule":**
  `<YYYYMMDD>_<TYPE>_<EIC-NAME-BALANCINGGROUP>_<EIC-NAME-TSO>_<VVV>.XML`

- **Request of a confirmation report by a trading partner** ("Status Request")
  The file name of the "Status Request" should be generated in line with this naming convention.
  `<YYYYMMDD>_<TYPE>_<EIC-NAME-BALANCINGGROUP>_<EIC-NAME-TSO>_CRQ.XML`

7.1.2 TSO acknowledgements

The file names of the acknowledgements are generated as follows by the TSOs:
- **Acknowledgement message**
  `<YYYYMMDD>_<TYPE>_<EIC-NAME-BALANCINGGROUP>_<EIC-NAME-TSO>_<VVV>_ACK_<yyyy-mm-ddThh-mm- ssZ>.XML`

- **Anomaly report**
  `<YYYYMMDD>_<TYPE>_<EIC-NAME- BALANCINGGROUP>_<EIC-NAME-TSO>_<VVV>_ANO_<yyyy-mm-ddThh-mm- ssZ>.XML`

- **Confirmation report**
  `<YYYYMMDD>_<TYPE>_<EIC-NAME-BALANCINGGROUP>_<EIC-NAME-TSO>_<VVV>_CNF_<yyyy-mm-ddThh-mm-ssZ>.XML`

Tab. 7-1: TSO acknowledgements: Description of elements

`<YYYYMMDD>`	Validity date of the schedule related to the actual calendar day
`<TYPE>`	Type of trading partner schedule (3 chars.) see Tab. 7-2
`<VVV>`	Version of schedule message. The version has 3 digits with leading zeros
`<yyyy-mm-ddThh-mm-ssZ>`	Time of creation of the anomaly / confirmation message. The timestamp is used to differentiate between multiple anomaly (and possibly also confirmation) messages for a schedule message.

Tab. 7-2: Types of trading partner schedules

`TPS`	**T**rade-responsible **P**arty **S**chedule	BRP schedule
`PPS`	**P**roduction-responsible **P**arty **S**chedule	Production schedule

7.2 Message identification

7.2.1 Message identification in the schedule registrations of trading partners

There are no specifications on the part of the German TSOs for the message identification of schedule registrations.
The ESS Implementation Guide permits 35 alphanumeric characters here. See [2] page 36, Section 4.1.3.

7.2.2 Message identification for TSO acknowledgements

TSOs generate the message identification of their acknowledgements in line with the following format:

```
<YYYYMMDD>_<EIC-NAME-TSO>_<TYPE>_<NNNNN>
```

Tab. 7-3: Message ID: Description of elements

`<YYYYMMDD>`	Validity date of this message data related to the actual calendar day
`<EIC-NAME-TSO>`	EIC name of the TSO
`<TYPE>`	Type of the TSO document (3 chars.), see Tab. 7-4
`<NNNNN>`	Consecutive no.

Tab. 7-4: TSO document types

`ACK`	**Ack**nowledgement document
`ANO`	**Ano**maly report
`CNF`	**Con**firmation report

7.3 Time series identification

The time series ID of an XML document must be unique for all time series within the document.
The ESS Implementation Guide permits 35 alphanumeric characters here (see [2] page 44, Section 4.4.1).

7.3.1 Time series identification in the schedule registrations of trading partners
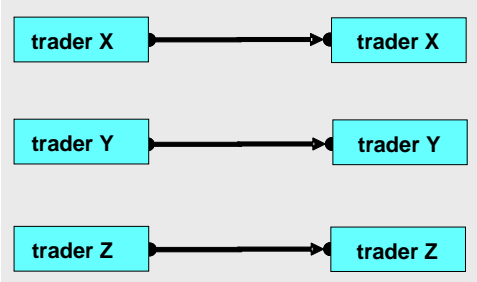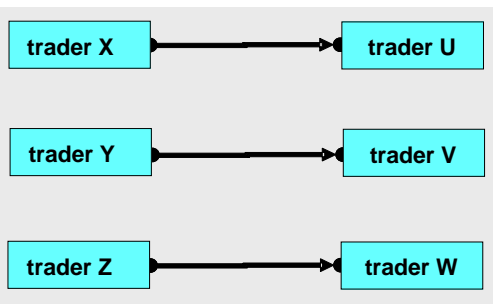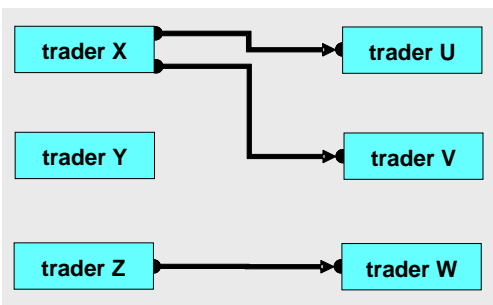
There are no mandatory specifications on the part of the German TSOs for the time series identification in the schedule registrations.

Appendix A   Document references
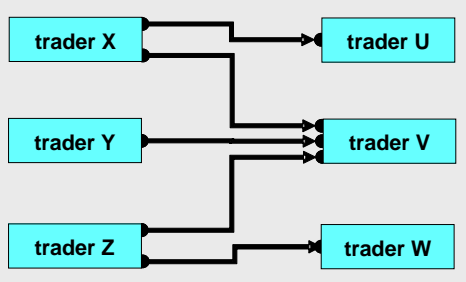
[1]   [**EIC**]; The ETSO Identification Coding Scheme, a common identification system for the electricity industry, Version 4 Release 3; 08.06.2009, **www.edi.etso-net.org**

[2]   [**ESS_2.3**]; ETSO Scheduling System; Implementation Guide, Version 2 Release 3, 29.04.2003, **www.edi.etso-net.org**

[3]   [**ESP**]; ETSO Scheduling and Settlement System; Code List, most recent version **www.edi.etso-net.org**

[4]   [**StromNZV**]; [**StromNZV**]; Verordnung über den Zugang zu Elektrizitätsversorgungsnetzen; (Stromnetzzugangsverordnung – StromNZV); vom 29.07.2005; **http://www.gesetze-im-internet.de/stromnzv/BJNR224300005.html**

Appendix B   Glossary

Term	Description
1BRP nomination	In the one balance responsible party model, the trading partner on both sides of the border must be identical for a cross-control area schedule. See Fig. 7-1. Example: within the German control block Fig. 7-1: Representation of the 1 BRP model
1:1 nomination	A balance responsible party can register trading business with exactly one other balance responsible party in the other control area. The balance responsible party in the other control area may only register trading business with this balance responsible party. See Fig. 7-2. Example: DE / DK border. Fig. 7-2: Representation of 1:1 nomination
1:N nomination	A balance responsible party can register trading business with different balance responsible parties in the other control area. The balance responsible party in the other control area may only register trading business with this balance responsible party. See Fig. 7-3. Example: DE / NL border on the Dutch side. Fig. 7-3: Representation of 1:N nomination
Acceptance inspection	The incoming check includes all tests for which the data of no other market participants or other data types are required.
Accepted time series	A time series is assigned status "Accepted" if it was in an ESS message that was confirmed in an ACK with Reason Code "A01" (Message fully accepted). It is used by the TSO for further reconciliation.
BRP	**Balance responsible party**
CAS file	(**C**ontrol **A**rea **S**chedules) A CAS file is exchanged between two TSOs for reconciling the control area balance of the two TSOs. The file contains all trading partner schedules describing the energy exchange between the two control areas (e.g. TransnetBW and Amprion).
CAX file	(**C**ontrol **A**rea E**x**change) The file contains the control area balances of the TSO in question on the basis of the "external" trading partner schedules submitted. CAX files are exchanged between the TSOs in the German control block, i.e.

Term	Description
	every TSO makes its balances available to the others.
Correction cycle	The reconciliation process between two control areas starts at the <u>gate closure time (GCT)</u> and ends at the <u>cut-off time (COT)</u>. The time period between these two times is also called the correction cycle. If, for example, after the gate closure time for the DayAhead process, discrepancies are ascertained especially for cross-control area schedule registrations, the TSO can request the market participants in question to correct their schedule registration, and to send it before the cut-off time.
Counter-confirmed time series	For a BRP, a time series is considered counter-confirmed (= accounting relevant) when this time series has been sent by the TSO to the BRP in a confirmation report. Within the confirmation report, this time series can be sent as "Confirmed TS" in unchanged or modified form, or as "Imposed TS". Counter-confirmed time series (schedules) are also accounting relevant for the TSO (for cross-control area counter-confirmed schedules, also relevant to the control area). Cross-control area schedules are counter-confirmed automatically or manually in the result of a CAS check.
Cut-off time (COT)	This is the latest time at which the reconciliation process between two control areas is complete. Non-coherent schedules are then adjusted by the control areas using predefined rules. The reconciliation process between two control areas starts at the GCT and ends at the COT.
Data check	See **Verification** test.
Gate closure time (GCT)	Schedule changes may be sent by the BRP for every process phase until this point in time. The reconciliation process between two control areas starts at the GCT and ends at the COT.
In Area	Corresponds to "In control area" in Excel format **Cross-control area schedule:** Control area into which energy is to be supplied. **Internal control area schedule:** Entered here is the control area for which this schedule has been submitted. The entries in fields "Out Area" and "In Area" must be identical.
In Party	Corresponds to information "In balance responsible party" in the Excel format **Cross-control area schedule:** Balance responsible party to which the energy is to be supplied. **Internal control area schedule:** Balance responsible party to which the energy is to be supplied.
IntraDay change	All cross-control area schedule changes arriving after the GCT of the previous day at the respective TSO are called IntraDay changes. For the lead times given in StromNZV (see [4] § 5 Sections 2 and 4), and all other checks based upon them, the arrival time (timestamp) of the file at the relevant TSO applies, not the send or creation time of this file at the sender.
Message version	Change identifier: Version of the schedule submitted. The version number starts every day at 1 and is incremented for every change, separated by data columns (time series). See also [2], Section 4.2.2.1.1.

Term	Description
N:M nomination	Every balance responsible party of a control area may register trading business with every balance responsible party in the other control area. See Fig. 7-4. Example: DE / CZ border. Fig. 7-4: Representation of 1:N nomination
Next workday	Also, subsequent schedule changes up to 16:00 of the workday following the fulfilment day of the schedule (next working day) are possible for internal control area schedules only. Workdays in this sense are defined as Monday to Friday without statutory holidays that are stipulated as public holidays in at least one federal state. Christmas Eve (24.12.) and New Year's Eve (31.12.) are deemed public holidays.
Out Area	Corresponds to the information "Out control area" in the Excel format **Cross-control area schedule:** Control area from where the energy is to be sourced. **Internal control area schedule:** Entered here is the control area for which this schedule has been submitted. The entries in fields "Out Area" and "In Area" must be identical.
Out Party	Corresponds to the information "From balance responsible party" in the Excel format **Cross-control area schedule:** Balance responsible party from which the energy is to be sourced. **Internal control area schedule:** Balance responsible party from which the energy is to be sourced.
Receiver identification	Name of recipient
Schedule time interval	Start and end times of schedule in UTC format
Sender identification	Name of sender
Sink rule	If, for two corresponding schedules, no clarification of the differences is possible, the schedule of the importing balance responsible party forms the basis of operational transactions and settlement. Schedules for which there is ultimately no corresponding schedule are not considered. This also applies when the corresponding schedule only has zero-values.
TS ID	time series identification Unambiguous ID for a time series within a schedule file. The maximum length of a TS ID is 35 characters [A-Z, a-z, 0-9]
UTC	**U**niversal **T**ime **C**oordinated The time specifications of all countries refer to this time. Corresponds to GMT (Greenwich Mean Time). UTC runs continually and has no switchover between summer and winter time. CET (Central European Time) and CEST (Central European Summer Time) apply in Germany.

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Term	Description
	CEST is two hours behind UTC (UTC + 2h) and CET one hour behind UTC (UTC + 1h). [Source: BET specialist dictionary, ***http://www.bet.de/Lexikon/Begriffe/utc.htm***]
UTC time format	See standard ISO 8601; The formats described in [2] apply for the ESS.
Verification test	Verification tests include tests for which the data of corresponding market participants is required.

Appendix C   <u>Business types</u>

Tab. 7-5: Permitted business types and associated object aggregation

Business Type	Object Aggregation	Description
A01	A01	Production (forecast) in a control area (see Section 2.3.1)
A02	A01	Internal control area business (see Section 2.2)
A03	A01	Cross-control area time series using certificates (capacity contract type and a capacity agreement identification). As part of the acceptance inspections (see Section 3.1), a check is performed on whether the elements *Capacity Contract Type* and *Capacity Agreement Identification* are available. If not, the relevant schedule file is rejected as erroneous.
A04	A01	Consumption (forecast) in a control area (see Section 2.3.2)
A06	A01	Cross-control area time series without the use of certificates. Elements *Capacity Contract Type* and *Capacity Agreement Identification* may not be specified in this case.

Appendix D **Domestic German process phases of schedule management**

The handling of schedule registrations is divided into the following basic phases (within Germany for day D):

a) <u>DayAhead</u>:   **Previous month to D-1, 14:30:**

b) <u>DayAhead Matching</u>   **from D-1, 14:30, to D-1, 18:00:**
Particularities are covered in Section 5.2.1, "Schedule registration in process phase DayAhead Matching".

c) <u>IntraDay</u>:   **From D-1, 18:00, to D, 24:00:**
The start time for the automated IntraDay reconciliation process is generally D-1, 18:00.
This start time can be moved to a later time in exceptional circumstances. The "DayAhead Matching" phase is prolonged in this case.

d) <u>DayAfter</u>:   **From D+1 00:00 to 16:00 of the workday following D:**

This means that every day between 18:00 and 24:00, both the current and the following day are in the IntraDay phase.

Different time limits can exist for schedule registrations for abroad. These are mentioned in Appendix F Special cases for schedule registration at foreign borders.

Appendix D.1 <u>**Terminology for time limits**</u>

Used in this document are terms relating to time limits for schedule submission and resultant processing steps.
Fig. 7-5 provides an overview.
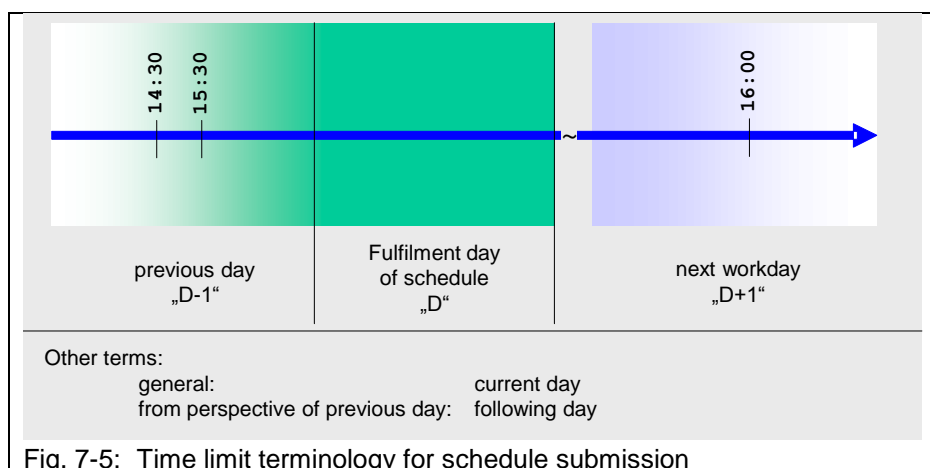
Fig. 7-5: Time limit terminology for schedule submission

Appendix E   Links to control areas abroad

Tab. 7-6 lists the links from German TSOs to TSOs abroad (as of January 2011).

Tab. 7-6:   Cross-border transfer stations to TSOs abroad

TransnetBW	RTE, APG, swissgrid
Amprion	TenneT B.V., RTE, APG, swissgrid, CREOS
TenneT GmbH	energinet.dk (West), TenneT B.V., APG, CEPS
50HzT	PSE, CEPS, energinet.dk (East)

These links are shown in the figures below.
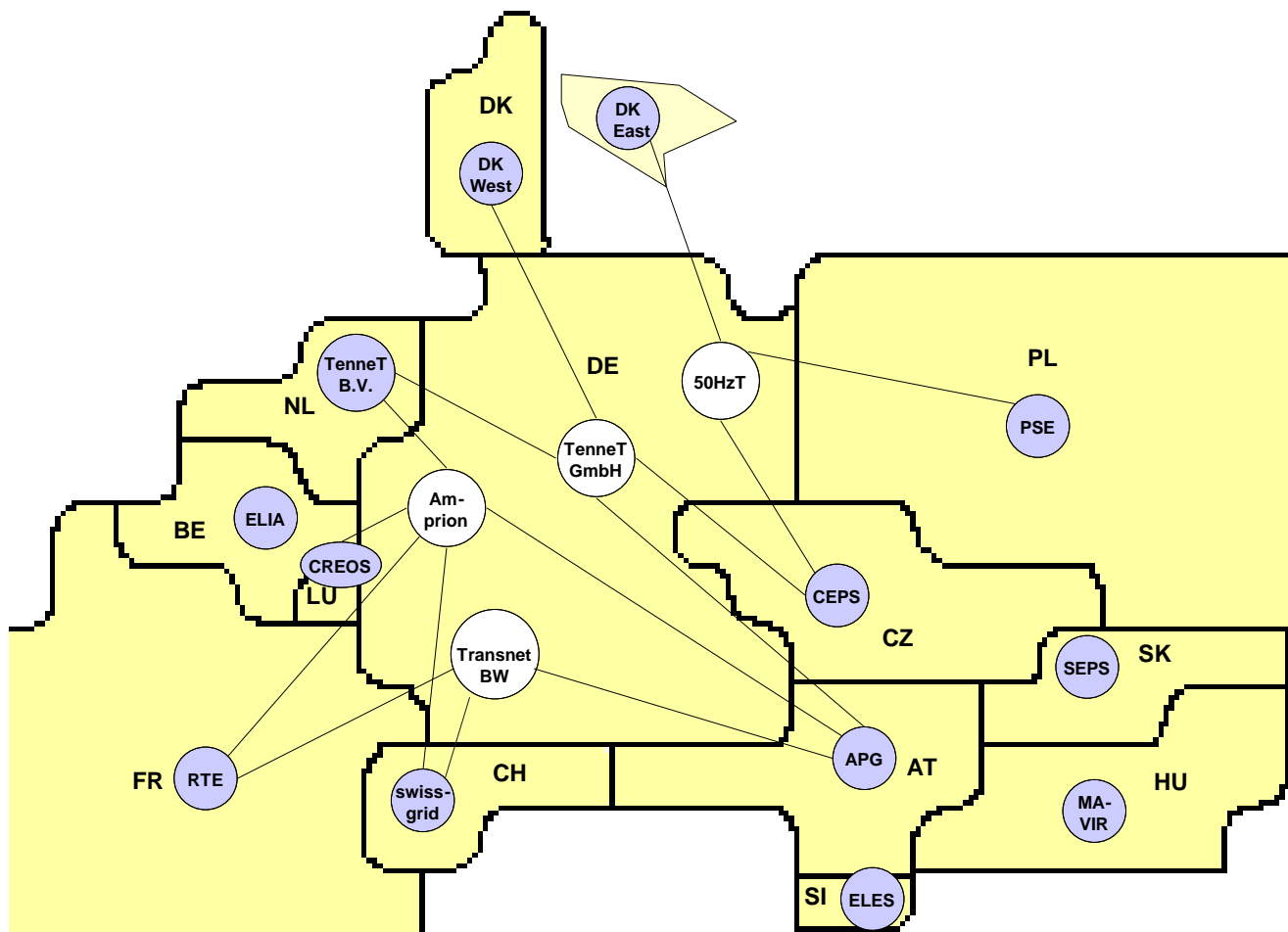
Fig. 7-6:   Links to control areas abroad

Appendix F   Special cases for schedule registration at foreign borders

Appendix F.1 Gate closure times, resolution

Tab. 7-7: Particularities for schedule registration at foreign borders

Part 1: Gate closure times, resolution

Country	Type	Time	Resolution / Time grid	Particularities / evidence
Within Germany (DE)	DayAhead	Gate closure 14:30	MW with 3 decimal places (0.001) ¼ h time grid	None
	IntraDay[1]	Continuously 15 min. to the ¼h switchover with the changed value → **15 min. lead time**		None Start from 18:00 (d-1)
	DayAfter	Up to 16:00 on next working day		Business within the control area only
DE <> CH	DayAhead	Gate closure 14:30	MW with 3 decimal places (0.001) ¼ h time period	Shortfall exists: See the auction rules for this border for conditions

	IntraDay	Continuously
		  45 min. to the ¼h switchover with the changed value
		  + 15 min. for the capacity reservation
		→ **60 min. lead time**		

	Power station failure	Continuously
		  15 min. to the ¼h switchover with the changed value
		  + 15 min. for the capacity reservation
		→ **30 min. lead time**		

DE <> AT	DayAhead	Gate closure 14:30	MW with 3 decimal places (0.001) ¼ h time period	Start from 18:00 (d-1) Announcement to TSO in Austria required by phone.
	IntraDay	Continuously 45 min. to the 1 h switchover with the changed value → **45 min. lead time**		
DE <> NL	DayAhead	DE: Gate closure 14:30 NL: Gate closure 14:00	MW with 1 decimal place (0.1) Hourly scheduling	Shortfall exists: See the auction rules for this border for conditions

	IntraDay	Continual:
		  60 min. to the ¼h switchover with the changed value
		  + 10 min. for the capacity reservation
		→ **70 min. lead time**		

DE <> FR	DayAhead	DE: Gate closure 14:30 FR: Gate closure 14:00	MW without decimal places (0) Hourly scheduling	Shortfall exists: See the auction rules for this border for conditions

	IntraDay	Continual
		  45 min. to the 1 h switchover with the changed value
		  + 15 min. for the capacity reservation
		→ **60 min. lead time**		

---

[1] Because IntraDay changes are possible with a very short lead time, differentiation between "normal" IntraDay trade and "power station failure" is no longer necessary.

Tab. 7-7: Particularities for schedule registration at foreign borders

Part 1: Gate closure times, resolution

Country	Type	Time	Resolution / Time grid	Particularities / evidence

DE <> LU	IntraDay (balancing market)	Continual
		   15 min. to the 1 h switchover
		     with the changed value
		   + 15 min. for the capacity
		     reservation
		→ **30 min. lead time**
				Only on request by RTE

	DayAhead	Gate closure 14:30	MW with 3 decimal places (0.001) ¼ h time period	None
	IntraDay	No IntraDay currently possible		
DE <> DK West	DayAhead	Gate closure 14:30	MW with 1 decimal place (0.1) ¼ h time period	Shortfall exists: See the auction rules for this border for conditions

	IntraDay	Continuously
		   45 min. to the 1 h switchover
		     with the changed value
		   + 15 min. for the capacity
		     reservation
		→ **60 min. lead time**		

DE <> DK East	DayAhead	Gate closure 14:30	MW with 1 decimal place (0.1) ¼ h time period	Shortfall exists: See the auction rules for this border for conditions

	IntraDay	Continuously
		   45 min. to the 1 h switchover
		     with the changed value
		→ **45 min. lead time**		

DE <> CZ	Long term	Gate closure: d-2 17:00	MW without decimal places (0) ¼ h time period	Shortfall exists: See the auction rules for this border for conditions
	DayAhead	Gate closure: 14:30		
	IntraDay	**90 min. lead time** before the 4-hour block (00:00-04:00, 04:00-08:00, ...)		
DE <> PL	Long term	Gate closure: d-2 17:00	MW without decimal places (0) ¼ h time period	Shortfall exists: See the auction rules for this border for conditions
	DayAhead	Gate closure: 13:30		
	IntraDay	**90 min. lead time** before the 4-hour block (00:00-04:00, 04:00-08:00, ...)		

Appendix F.2 <u>Matching rules</u>

Only the process phases DayAhead and IntraDay are considered for the matching rules for abroad.

Tab. 7-8: Particularities for schedule registration at foreign borders

Part 2: Matching rules

Country	Type	Matching Rule
Within Germany (DE)	DayAhead	See Section 4 Matching rules in this document
	IntraDay	
	DayAfter	
DE <> CH	DayAhead	Shortfall exists: See the auction rules for this border for conditions
	IntraDay	

Tab. 7-8: Particularities for schedule registration at foreign borders

Part 2: Matching rules

Country	Type	Matching Rule
DE <> AT	DayAhead	Minimum rule
	IntraDay	Last value reconciled
DE <> NL	DayAhead	Shortfall exists.
	IntraDay	Applications on the Dutch side are valid.
DE <> FR	DayAhead	Shortfall exists:
	IntraDay	See the auction rules for this border for conditions
DE <> DK East	DayAhead	Shortfall exists:
	IntraDay	See the auction rules for this border for conditions
DE <> DK West	DayAhead	Shortfall exists:
	IntraDay	Applications on the German side are valid.
DE <> CZ	DayAhead	Shortfall exists:
	IntraDay	Minimum rule
DE <> PL	DayAhead	Shortfall exists:
	IntraDay	Minimum rule

Appendix F.3 In / Out Party naming

Tab. 7-9: Particularities for schedule registration at foreign borders

Part 3: In / Out Party naming

Country	In / Out Party naming
Within Germany (DE)	Only EIC codes (coding scheme "**A01**") that are valid in the respective control areas are permitted.
DE <> CH	Only EIC codes (coding scheme "**A01**") that are valid in the respective control areas are permitted.
DE <> AT	Only EIC codes (coding scheme "**A01**") that are valid in the respective control areas are permitted.
DE <> NL	For In and Out Party, the EIC code (coding scheme "**A01**") of the balance responsible party must be specified in the German control area.
DE <> FR	For In and Out Party, the EIC code (coding scheme "**A01**") of the balance responsible party must be specified in the German control area.
DE <> DK East	For In and Out Party, the EIC code (coding scheme "**A01**") of the balance responsible party must be specified in the German control area.
DE <> DK West	For In and Out Party, the EIC code (coding scheme "**A01**") of the balance responsible party must be specified in the German control area.
DE <> CZ	Only EIC codes (coding scheme "**A01**") that are valid in the respective control areas are permitted.
DE <> PL	Only EIC codes (coding scheme "**A01**") that are valid in the respective control areas are permitted.

Appendix G Principle structure of the ESS data format

Shown below by means of an example is the principle structure of an ESS schedule message.

> *Example:*
> Trading partner *ATOZ supplies on 02.07.2003 between 0:00 and 24:00 100.123 MW from the TransBW control area to the Amprion control area*

An ESS schedule message (see Fig. 7-7) consists of the following elements:
- Message header
- Time series header
- Period level
- Interval level

The message header corresponds to the address area of a mail or letter, e.g. of a delivery note. Sender and recipient are given, and there is also a unique name for the file.

The time series header corresponds to a listing of "supplied" objects / articles.

The period and the interval level correspond to the quantities supplied.

Shown in Fig. 7-7 are the details of the message header of the schedule message.

Entries in the yellow area correspond to the information from the above Example:

Trading partner ATOZ (sender ID) sends a schedule file (message type) for date 02.07.2003 (schedule time interval) to recipient TransnetBW (receiver ID).

In the message and time series header areas is a unique name of the file or time series.

This is the "message identification" or the "time series identification". Please refer to Sections 6.1, 7.2 and 7.3 for further information.

Message identification	ATOZ-20030707-001
Message version	1
Message type	A01
Process type	A01
Schedule classification type	A01
Sender Id	99XATOZ--------O
Coding scheme	A01
Sender role	A01
Reciver Id	10XDE-ENBW--TNGX
Coding scheme	A01
Reciver role	A04
Message date and time	2003-07-01T09:00:00Z
Schedule time interval	2003-07-01T22:00Z/ 2003-07-02T22:00Z

Fig. 7-7: ESS schedule message: "Message header"

Continuing on with the "Delivery note" example, the message identification can be equated to an invoice number and the time series identification to an order number for an article.

Shown in Fig. 7-8 is the time series header, the header of schedule business.

Defined here is which type of business is transacted from where to where.

Elements with ID <Empty> may not be specified in the message because an empty element means a violation of the DTD or scheme.

Entries in the yellow area correspond to the information from the above Example:

Trading partner ATOZ submits an external schedule (business type A06). The energy is supplied from the TransnetBW control area (Out Area) to the Amprion control area (In Area).

Time Series identification	r10YDE-ENBW-----Nss
Time Series version	1
Business type	A06
Product	8716867000016
Object aggegation	A01
In Area	10YDE-RWENET---I
Coding scheme	A01
Out Area	10YDE-ENBW-----N
Coding scheme	A01
Metering point identification	<Empty>
Coding scheme	<Empty>
In Party	99XATOZ--------O
Coding scheme	A01
Out Party	99XATOZ--------O
Coding scheme	A01
Capacity contract type	<Empty>
Capacity agreement identification	<Empty>
Measurenent unit	MAW

Fig. 7-8: ESS schedule message: "Time series header"

Specified in the period level (see Fig. 7-9) is the time period for which the schedule is to be valid (time interval) and which resolution is to be used.

Entries in the yellow area correspond to the information from the above Example:

The schedule is intended for day 02.07.2003 (time interval) and ¼ hour values are specified (resolution).

Message Header	
0..N	
Time Series Header	
1	
Period	→
1..N	
Interval	

Time interval	2003-07-01T22:00Z/ 2003-07-02T22:00Z
Resolution	PT15M
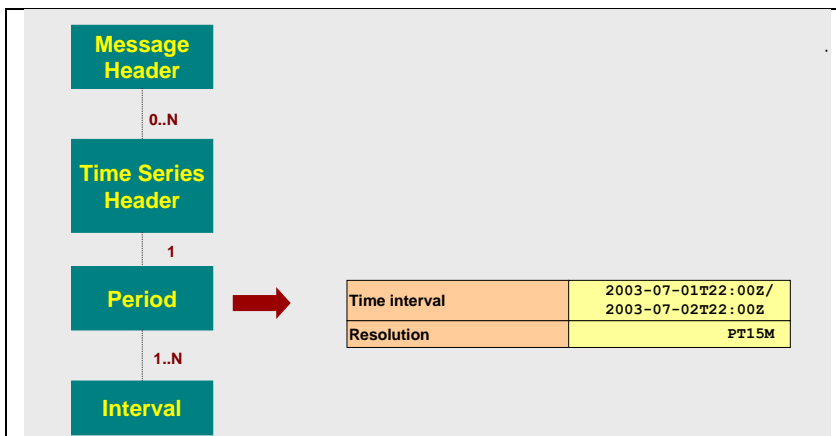
Fig. 7-9: ESS schedule message: "Period level"

Entered in the interval level (see Fig. 7-10) are the quantities to be supplied.

A position (Pos) and a quantity (Qty) are specified for every value.

Entries in the yellow area correspond to the information from the above Example:

The schedule is intended for a "normal" day. The resolution from the period level means that 96 entries are expected.

The quantity for the whole day is 100.123 MW.

Message Header	
0..N	
Time Series Header	
1	
Period	
1..N	
Interval	→

Pos	1
Qty	100.123

Pos	2
Qty	100.123

⋮

Pos	96
Qty	100.123
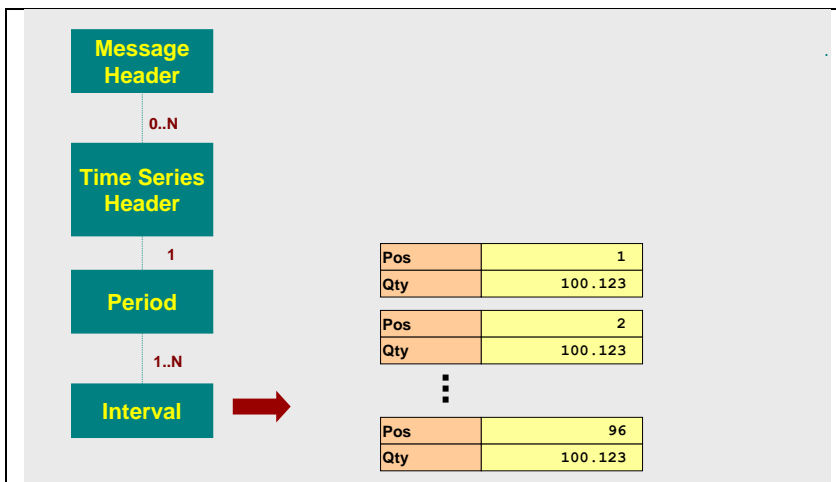
Fig. 7-10: ESS schedule message: "Interval level"

PG Scheduling Management
Disclaimer: This is the translation of the original, German process description ("Fahrplananmeldung in Deutschland mit Hilfe des entso-e Scheduling System (ESS)"). Only the German document is binding, but not this translation in English.

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Appendix H   <u>**Acknowledgements in the acknowledgement report**</u>

When a schedule file arrives, it is subjected to a series of checks. The result of these checks is returned via the acknowledgement report.

In the first step, these are "formal" checks, including checks on the layout of the file and conformance to certain rules, such as versioning. These acceptance inspections also include all check options for which no data of corresponding trading partners or TSOs is required.

The following table provides an overview of the checks currently implemented. This table is not necessarily complete.

Tab. 7-10:   List of checks for acknowledgements in the acknowledgement report

Description of check	Acknowledgement Report			
	Message	Time series	Interval	Reason Text / *Comment*
Message Level				
Registration of the schedule in the correct control area (receiver ID as per EIC code)	A02 + A53			
Arrival time monitoring	1. A01 2. A02 + A57			1. Schedule accepted despite exceedance 2. Schedule not accepted due to exceedance
Balance responsible party name of sender (sender ID as per EIC code)	A02 + A05			
Date check				
Schedule time interval: UTC format	A02 + A04			
Check of message ID and version	A02 + A51			
If all information available (checksum of schedule file = 0)	A01 + A03 + A54			*Differences do not result in rejection*
Threshold exceeded				
a) Network shortfall	A02 + A03	A27	A27	
b) Limitation by Contracts dept.	A02 + A10			
Measurement unit	A02 + A03	A59		"MWH" expected
Schedule time series				
Schedule account correct (schedule header without date)				
a) External schedule Business type: A06				
1. In Area <> Out Area	A02 + A03	A22		In Area <> Out Area expected
2. One of the areas must also be receiver ID	A02 + A03	A22		One Area = Receiver expected
3. In Party = Out Party = Sender	A02 + A03	A23		In Party = Out Party = Sender expected
4. Non-permitted cross-over registration	A02 + A03	A58		
5. Non-permitted foreign registration	A02 + A03	A23		
b) Internal schedules Business type: A02				
1. In Area = Out Area = own control area	A02 + A03	A22		In Area = Out Area = Receiver expected
2. In Party <> Out Party	A02 + A03	A23		In Party <> Out Party expected
3. One party must also be sender	A02 + A03	A23		One Party = Sender expected
c) Production schedule Business type: A01				
1. In Area = own control area	A02 + A03	A22		In Area = Receiver expected
2. If Out Area specified: In Area = Out Area = own control area	A02 + A03	A22		In Area = Out Area = Receiver expected
3. In Party = Sender	A02 + A03	A23		In Party = Sender expected
4. If Out Party specified In Party <> Out Party	A02 + A03	A23		In Party <> Out Party expected
5. If Out Party specified: One party must also be sender	A02 + A03	A23		One Party = Sender expected

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Tab. 7-10: List of checks for acknowledgements in the acknowledgement report

Description of check	Acknowledgement Report			
	Message	Time series	Interval	Reason Text / *Comment*
d) Consumption schedule Business type: A04				
1. Out Area = own control area	A02 + A03	A22		Out Area = Receiver expected
2. If In Area specified: In Area = Out Area = own control area	A02 + A03	A22		In Area = Out Area = Receiver expected
3. Out Party = Sender	A02 + A03	A23		Out Party = Sender expected
4. If In Party specified: In Party <> Out Party	A02 + A03	A23		In Party <> Out Party expected
5. If In Party specified: One party must also be sender	A02 + A03	A23		One Party = Sender expected
e) Multiple occurrences of schedule columns	A02 + A03	A55		
Balance responsible party names of trading partners as per EIC code	A02 + A03	A05 A22		A05: Name of trading partner incorrect A22: Balance responsible party contract of trading partner not (yet) valid
Control area names as per EIC code	A02 + A03	A23		
Versioning				
a) Values have been changed for same version number	A02 + A03	A50	A50	
b) Version number < version number of existing time series	A02 + A04	A50		
c) Invalid version number, e.g. "0" or greater than message ID	A02 + A05	A50		
d) New time series has been added with invalid version no.	A02 + A06	A50		
e) Version number has been changed for non-modified values	A02 + A07	A50		
Incorrect bilateral netting of time series	A02 + A03	A56	A56	
Reported time series missing in new version	A02 + A03	A52		
Check of the schedule time series ID and version	A02 + A03	A55		
Period				
Period time interval (UTC format)	A02 + A03			Must match the schedule time interval
Resolution Only code "PT15M" is accepted	A02 + A03	A49	A49	"PT15M" expected
Interval				
Period (Interval.Pos)				
1. Every position must occur once.	A02	A49	A49	
2. Number of values (periods)				
I. Winter/summer time changeover (92 values expected)	A02	A49	A49	92 periods expected
II. Summer/winter time changeover (100 values expected)	A02	A49	A49	100 periods expected
III. Other days (96 values expected)	A02	A49	A49	96 periods expected
Value check (interval.Qty)				
a) Entry not a number (Real format)	A02	A42	A42	
b) Negative numbers	A02	A46	A46	
c) More than 3 decimal places	A02	A42	A42	

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