E-CONTROL

Electricity Market Code

Chapter 3

Schedules

Version 5.6

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This document describes the implementation of the ENTSO Scheduling Systems (ESS) for schedule management in Austria. It is based on version 2.3 of the ESS Implementation Guide (ESSIG).

1. Basic principles

The legal framework for electricity market opening in Austria also describes the basis for the clearing and balancing system. Balance groups (BG) exchange schedules to formalise planned electricity exchanges with each other, be it within a control area (CA) or across control area, control block or national borders.

Originally, schedules were Excel files, but they were later replaced by the ESS schedule format developed by ETSO (now: ENTSO-E). The ESS format is also used for production and availability schedules.

1.1 Definition

Section 7 of the *Elektrizitätswirtschafts- und -organisationsgesetz* (Electricity Act) defines the term “schedule” as the document that shows the amounts of electric energy fed into and withdrawn at specific grid points as projected mean load during regular intervals (imbalance settlement periods).

Balance groups, according to section 7 Electricity Act, are virtual groups of suppliers and customers within which the amounts of electric energy procured (i.e. injections, registered in procurement schedules) and supplied (i.e. withdrawals, registered in delivery schedules) are balanced. The exchange of energy between balance groups in a control area cannot be assigned to physical grid points; instead, it is considered to take place at virtual points on the grid.

1.2 Load units

The smallest unit for schedules between balance groups within a control area (internal schedules) is 1 kW (mean load in the imbalance settlement period), rounded away from zero.

Schedules across control areas (external schedules) are governed by the provisions set by the European Network of Transmission System Operators for Electricity (ENTSO-E). Exchange between Austrian and German control areas is possible at the minimum unit of 1 kW. Exchange with other foreign countries is currently only possible in 1-megawatt (MW) increments and four identical 15-minute values per hour. Depending on whether the foreign control area is part of the ENTSO-E Multi Time Frame System (MTFS), this restriction might not apply. Control area operators publish (preferably on the Internet) a list of their interconnection points with

foreign control areas and the minimum possible load units for them.

For system security assessments, grid calculations and load projections, data for each block on availability and production schedules, and each balance group's total-production or total-consumption schedules for pumped storage in whole MW are needed. Other data reporting for power stations connected to the distribution grid must be contractually agreed.

2. Scheduling

2.1 Correspondence with ENTSO terms

The below ENTSO-E terms are relevant for the Austrian electricity market model.

Table 1: Roles in the Austrian market model

ENTSO-E role model	**Austrian market model**
Balance Area (BA)	control area (CA)
System Operator (SO)	control area operator (CAO)
Balance Responsible Party (BRP)	balance responsible party (BRP)
Trade Responsible Party (TRP)	trade responsible party (TRP)
Consumption Responsible Party (CRP)	consumption responsible party (CRP)
Production Responsible Party (PRP)	production responsible party (PRP)
Imbalance Settlement Responsible Party (ISRP)	imbalance settlement responsible (ISR)

Table 2: ENTSO-E Scheduling System: terms and equivalents in the Austrian market rules

ESS	**Explanation**
ESS	ENTSO-E Scheduling System
ESSIG 2.3	ESS Implementation Guide, specifically version 2, release 3 (2.3)
Schedule	schedule
Time series	(schedule) time series
Acknowledgement Message	acknowledgement message
Anomaly Report	anomaly report
Confirmation Report	schedule confirmation
Out Area	control area exporting/supplying energy
In Area	control area importing/receiving energy
Out Party	seller (exporting balance group)
In Party	buyer (importing balance group)
Product	The product traded according to schedule, e.g. active load, active energy
Business Type	More descriptive term for the type of transaction for which a schedule is provided, e.g. production schedule, internal or external transaction
Object Aggregation	Identification of aggregation level of a schedule, e.g. aggregation per control area or (virtual) metering point (e.g. interconnection point)
Metering Point Identification	metering point reference number (MPRN)
Capacity Contract Type	Describes the contract terms of a specific capacity agreement, e.g. daily auction, weekly auction
Capacity Agreement Identification	Reference to a specific capacity agreement on which a schedule is based

2.2 Identification of market participants

The individual market participants are identified by a code under the Energy Identification Coding scheme (EIC), which is issued by individual issuing offices and is displayed on each market participant's website.

Every balance responsible party operating in Austria must obtain an EIC for its balance group from **one** of the EIC issuing offices (s. the list of issuing offices at www.entsoe.eu) and send it to the imbalance settlement responsible (ISR) when the group is established.

EICs are issued at balance group level. The sub-roles used in the ENTSO-E role model (TRP, PRP - see Table 1) are also mapped to the balance group. When schedules are transmitted, a BG acts as TRP for internal and external schedules and as PRP for production and availability schedules.

Control areas and ISRs are also identified by a code issued by ENTSO-E. The codes for the Austrian control areas are listed in the table below. A list of all ENTSO-E control areas can be found at www.entsoe.eu.

Table 3: EIC party code for control area operators (system operators) and EIC area code for control areas (balance areas) in Austria

Control area operator (CAO)	**Alias name (until 31/3/2003)**	**EIC area code**	**EIC party code (EIC CAO)**
Austrian Power Grid AG	A_APG_N	10YAT-APG------L	10XAT-APG------Z

Table 4: EIC party code for ISRs in Austria

Imbalance settlement responsible	**EIC**
APCS control area APG	14XAT-APCS-----Q

2.3 Process description

The APG control area can comprise any number of balance groups trading with each other. The resulting transactions can be divided into two types: internal transactions (within the control area) and external transactions (across control area or control block borders).

Inter-area and inter-block transactions are notified to the CAO via “external schedules” (s. section 2.3.1). The CAO forwards processed schedules to the ISR so that the latter can calculate imbalances.

For transactions within a control area, “internal schedules” (section 2.3.2) are submitted to the ISR, in accordance with the deadlines specified in the imbalance settlement responsible’s general terms and conditions (GTC ISR), again for the purpose of determining imbalances.

Each balance group in the APG control area must be balanced at 15-minute granularity for its external (section 2.3.1) and internal (section 2.3.2) transactions at gate closure time for each border’s day-ahead transactions.

In addition to the schedules resulting from the aforementioned transactions, for safe system

operation the CAO also needs production (section 2.3.4) and availability schedules (section 2.3.5).

All schedule messages are subject to the basic rules defined in section 2.4.1.

2.3.1 External schedules

2.3.1.1 Framework

The CAO accepts external schedule messages, validates their formal correctness and compliance with legal and technical rules, and matches them with the control area operators of the other control areas involved.

If the existing interconnection capacity is not sufficient to meet all requests, the control area operator proceeds according to section 20 of the Austrian Electricity Act and the relevant provisions of European law. See also sections 2.4.2.4, 2.4.2.5 and 4 (Capacity allocation).

2.3.1.2 Submission, validation and confirmation of external schedules

BRPs must notify the CAO of any transactions that cross control area borders. To do so, they use external schedules. The detailed rules and deadlines are defined in line with the applicable (EU-level) regulations and published on the CAO's website. Any changes are agreed with the regulator and with the neighbouring TSOs. Then the CAO sends them to the BRPs in an adequate format at least 4 weeks before they apply.

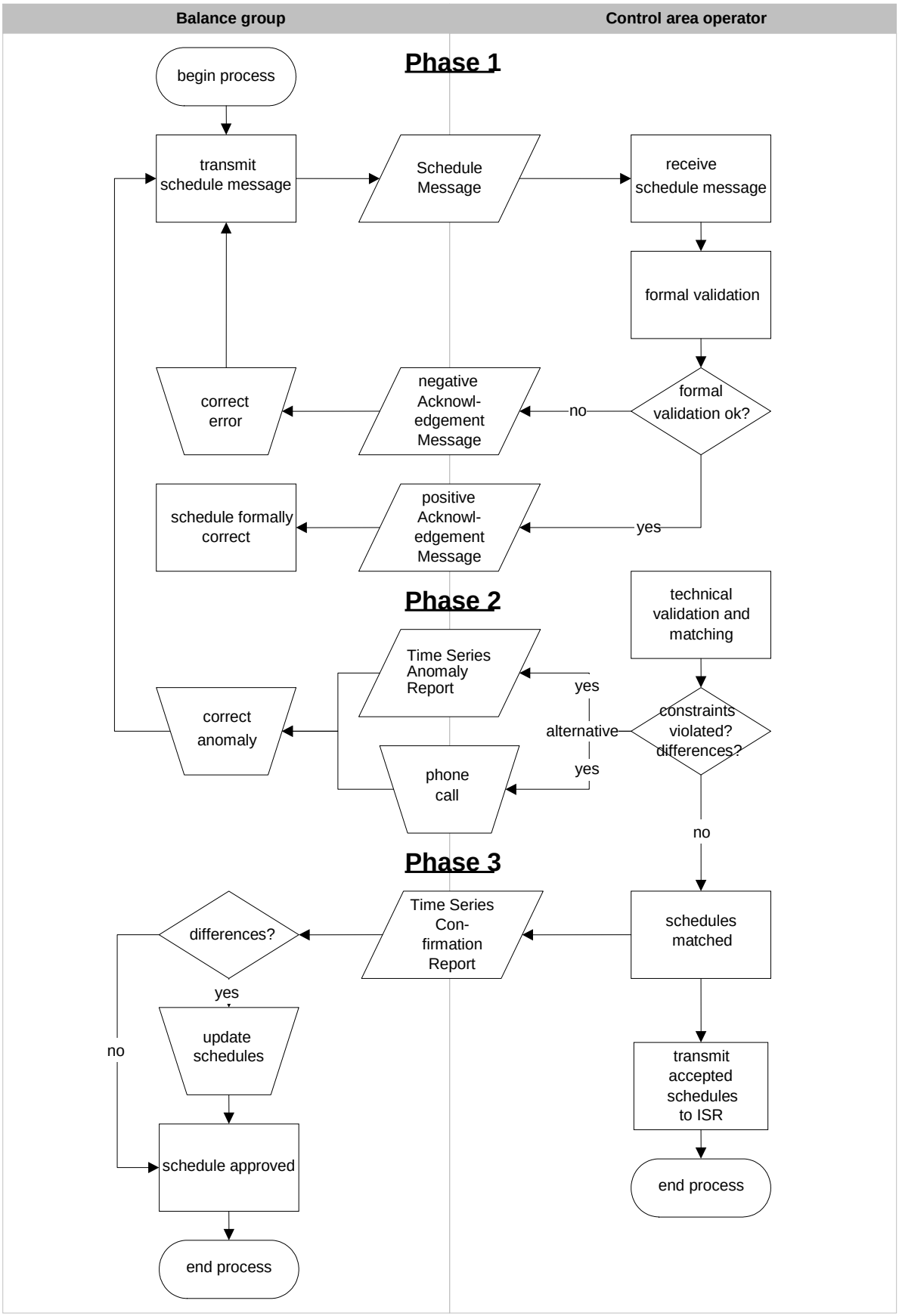
External schedules can be grouped into three categories, depending on their time line.

- Long-term (annual, monthly capacity)
- Day-ahead (D-1)
- Intraday

They are handled in a three-step process (see also ESSIG 2.3 chapter 3.2, Schedule system information flows, figure 6, page 22).

1. Submission (nomination)
2. Technical validation and matching
3. Confirmation

Figure 1: Submission, validation and confirmation of external schedules



Long-term and day-ahead

Phase 1: Submission (nomination)[1]

Submissions for long-term nominations must be cross-border schedules with time series based on annual or monthly capacities.

The day-ahead category in addition comprises time series based on daily capacities and nominations at the border with Germany (as there is no capacity allocation there).

The CAO must receive all nominations by the nomination gate closure times that apply for each particular border and for the relevant category.

Once a schedule has been formally validated, positive or negative feedback is transmitted to the sender in the form of an acknowledgement message.

Schedules arriving after gate closure are not processed for the time being; validation and matching for the schedules received on time are completed first.

In the event of exceptional market situations the control area operator is entitled, in consultation with the relevant neighbouring control area operators, to extend the deadline for receipt of external schedules. Balance responsible parties are informed of the extension in good time and in an appropriate manner.

Phase 2: Technical validation and matching

As soon as all the information about a schedule is available, including counterpart time series from control area operators of the other involved control areas, technical validation (restrictions, capacity limits, feasibility) takes place and the schedule is matched with the neighbouring control areas.

If there are anomalies, either time series anomaly reports are transmitted to the sender or the sender is contacted by phone.[2] The sender is then bound, without delay and in keeping with the applicable correction deadlines, but in any case no later than by cut-off time, to submit a corrected version of the schedule message. Corrections can only be made if the sender originally transmitted the schedule message before gate closure time to at least one of the two relevant CAOs.

[1] *Nomination modalities:* All details on the nomination modalities that apply for each border (e.g. earliest possible nomination time, gate closure time, correction deadlines, cut-off time) and explanations are available from the website of APG. Schedules that do not comply with the applicable nomination modalities are rejected.

[2] Anomalies are normally pointed out via time series anomaly reports, but if necessary the sender can be contacted by phone.

Note:

A balance group may receive several time series anomaly reports for one schedule message, and time series anomaly reports may also be received if no schedule message was sent, but there is a relevant message in another control area.

If the schedules do not match and cannot be corrected within the correction deadlines, the lower of the two values submitted to the TSOs applies (lesser rule).

Phase 3: Confirmation

At 16:30 hrs on D-1 the senders are told, in a time series confirmation report, in what form (unchanged or reduced) their external schedules can be performed.

Please note:

In certain circumstances several time series confirmation reports can be issued for one schedule message, if for example a message is changed again later by the other involved control area.

Where a schedule is reduced due to grid-related constraints, a letter of explanation is sent to the sender within 5 working days.

Intra-day

Phase 1: Submission (nomination)[3]

Cross-area intra-day trading begins at 18:00 hrs on D-1. The CAO rejects any intraday schedules it receives before this time.

The lead time for cross-area schedule message changes for intraday trading is 45 minutes on the full hour [H]. This lead time applies for all 15-minute values of the hour [H]. Schedule message changes received after this deadline are rejected.

In Austria, schedule messages for intraday changes are processed in the same format as day-ahead schedule messages. The A02 process type for intraday messages is not

[3] *Nomination modalities:* All details on the nomination modalities that apply for each border (e.g. earliest possible nomination time, gate closure time, correction deadlines, cut-off time) and explanations are available from the website of APG. Schedules that do not comply with the applicable nomination modalities are rejected.

supported. The process is the same as for day-ahead messages. Capacities for intra-day changes at congested borders must be approved before the revised schedule message is sent. A corresponding capacity agreement identification must be reserved. The CAO publishes all relating details on its website.

Once a schedule has been formally validated, positive or negative feedback is transmitted to the sender in the form of an acknowledgement message.

Please note:

If certain system operation circumstances manifest, intraday trading might have to be stopped, even at borders that are not congested. Time series changes for the affected directions are then rejected.

Phase 2: Technical validation and matching

The control areas match their received messages at pre-defined points in time (which may be different at each border). This includes technical validation and matching of new or changed schedule messages.

Schedule messages (time series) with discrepancies are immediately rejected (the previously matched schedule applies).

Phase 3: Confirmation

Once matching is complete, the sender receives a time series confirmation report to confirm how the schedule will be executed.

2.3.2 Internal schedules

2.3.2.1 Framework

Schedule transactions inside a control area are possible between all the BGs registered in the control area. In accordance with the GTC ISR, only the balance of transactions between the two participating BGs is reported to the ISR. The message is sent by both BRPs or by one BRP only, depending on the ISR's GTC.

To ensure system stability, the CAO must determine whether all the BGs in its control area are balanced. For this purpose it can request of the ISR each balance group's aggregate internal schedule as time series with 15-minute intervals. Details are specified in the GTC ISR.

2.3.2.2 Schedule submission

<u>Day-ahead scheduling</u>

BRPs must send their internal schedules to the ISR by 14:30 hrs on D-1 at the latest.

Schedules may be submitted 30 days in advance at the earliest.

Please note:

Balance groups for which the applicable market rules or statutory provisions do not explicitly specify an obligation for daily schedule submission can continue to use the previous procedure for schedule submission for the following day or for up to and including the next working day (Monday through Friday) on days before weekends and public holidays.

Day-ahead changes

Schedule changes at short notice after expiry of the day-ahead notice period may be sent for every quarter of an hour at least 15 minutes in advance. Modified schedules must be transmitted to the ISR by both the BRP of the procuring and the BRP of the supplying balance group.

Please note:

Any other options for changing schedules (e.g. for retrospective schedule changes) can be set forth in the GTC ISR.

Validation and matching

Internal schedules are processed in the same way as external schedules (submission, validation, matching).

If corresponding schedules do not match or were not transmitted, the relevant provisions of the GTC ISR apply (e.g. receiving party rule, zero values for missing schedules).

The GTC ISR specify in what form the results of the matching and validation process are provided to the market participants (e.g. time series anomaly / confirmation reports or information on the Internet or telephone). Generally, ESS documents are to be given preference over other information communication procedures.

Figure 2: Submission and validation of internal schedules

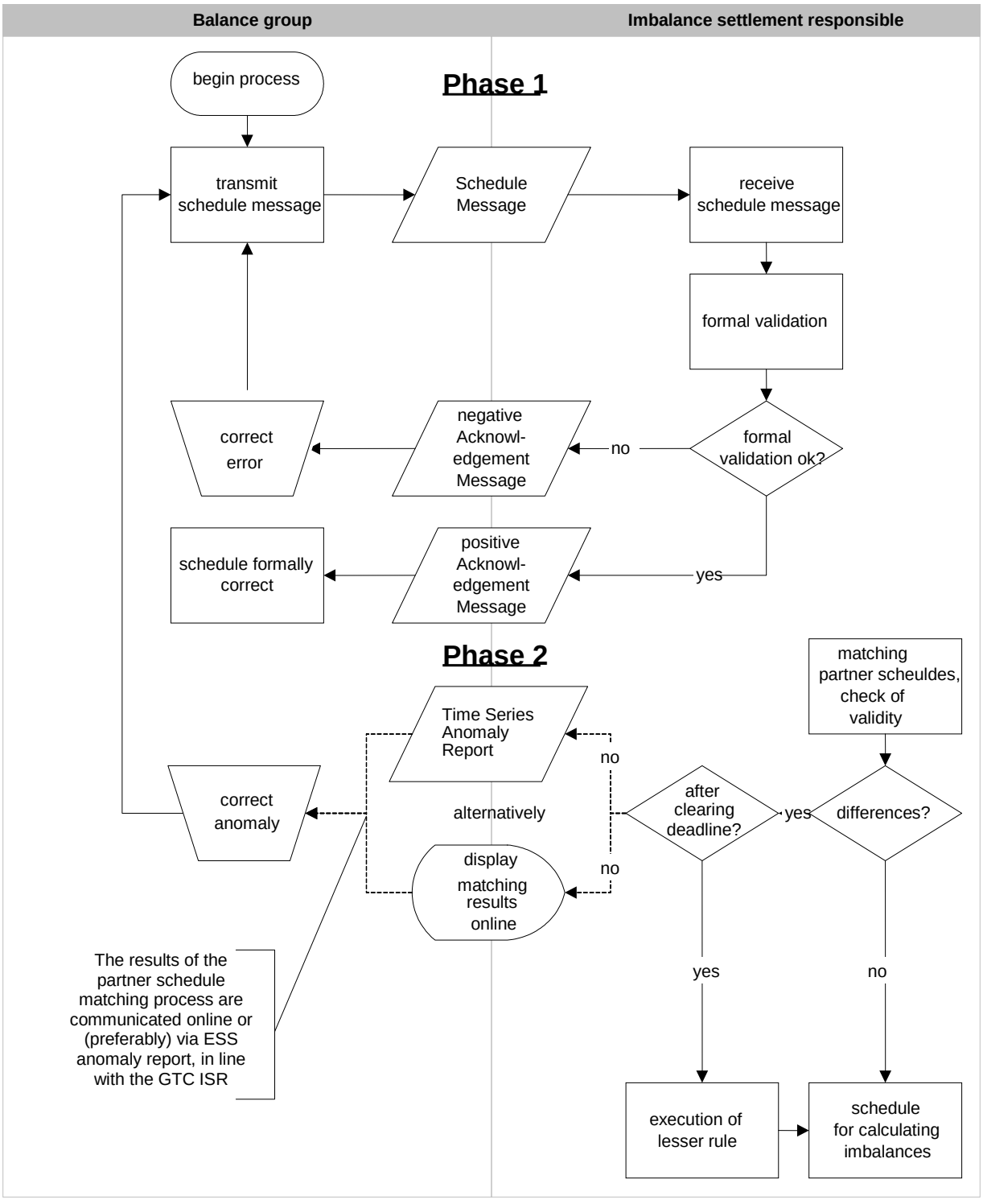
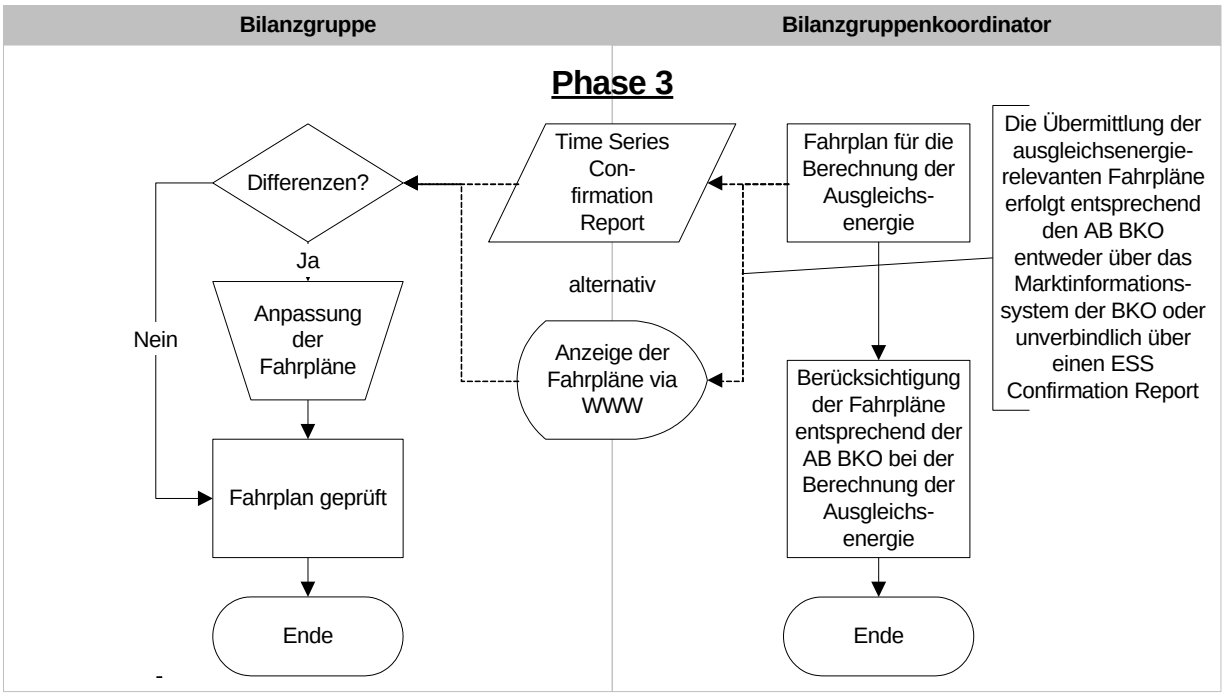

Balance group
Imbalance settlement responsible
begin process
Phase 1
transmit schedule message
Schedule Message
receive schedule message
formal validation
formal validation ok?
no
negative Acknowl-edgement Message
correct error
yes
positive Acknowl-edgement Message
schedule formally correct
Phase 2
matching partner scheuldes, check of validity
differences?
yes
after clearing deadline?
no
Time Series Anomaly Report
no
alternatively
display matching results online
correct anomaly
The results of the partner schedule matching process are communicated online or (preferably) via ESS anomaly report, in line with the GTC ISR
yes
no
execution of lesser rule
schedule for calculating imbalances

Figure 3: Confirmation of internal schedules



2.3.3 Schedules for the allocation of green electricity

Internal schedules for the allocation of green electricity to electricity suppliers are transmitted to the BRPs by the settlement agent for renewable energy, according to its general terms and conditions and the electricity market code, daily up to 10:00 hrs on D-1.

After processing these allocation schedules, the settlement agent for renewable electricity also transmits, by 10:15 hrs - based on the currently available forecasts - schedules for the day after next or, before weekends and public holidays, for all days up to and including the next working day. This means that on the last working day (normally Friday) before each weekend, schedules (first version), produced on the basis of the currently available forecasts, are transmitted for Sunday and the following Monday.

Green electricity quantities are allocated on Saturday for Sunday using a later schedule version, which replaces the previous day's schedule. In addition, an updated forecast schedule is transmitted on Saturday for Monday.

On Sunday the green electricity quantities are ultimately allocated for Monday by transmitting an even later version of the schedule, as well as the schedule for Tuesday.

Schedule transmission in a week with no public holidays is shown in the table below (the ultimately valid version is printed in **bold** in each case).

Table 5: Schedules for the allocation of green electricity

		Schedule versions transmitted		
		Version 1 for	**Version 2 for**	**Version 3 for**
Weekdays of schedule transmission	**Monday**	Wednesday	**Tuesday**	
	Tuesday	Thursday	**Wednesday**	
	Wednesday	Friday	**Thursday**	
	Thursday	Saturday	**Friday**	
	Friday	Sunday, Monday	**Saturday**	
	Saturday		**Sunday**, Monday	
	Sunday	Tuesday		**Monday**

This arrangement applies likewise for public holidays. Consequently, on the last working day before a public holiday, green electricity quantities are allocated for the holiday and the forecast schedule for the following working day is transmitted; the latter is replaced on the public holiday by transmission of a later version.

If, for technical reasons (e.g. no e-mail service available), a binding green electricity allocation schedule for the following day cannot be sent by 10:15 hrs, the settlement agent for renewable electricity, after previously notifying the BRP by telephone, can confirm that the schedule transmitted the previous day becomes binding.

2.3.4 Production schedules

Load flows for a given topology are determined exclusively by the amount and location of the injections and withdrawals. The terms “per unit” or “generating unit” below refer to power station transformer units. These units are the actual points where plants feed electricity into the grid. A generating unit can be connected to one or several alternators.

The control area operator and system operator need generation data, i.e. production schedules, per unit (time series with net values) from the balance groups. They use this information to calculate load flows and assess network security. This means each production schedule usually contains several time series.

Production schedules of pumped-storage power stations consist of generation data and pump-

ing data per unit.

For the feed-in points of Austrian federal railways ÖBB (transformer and converter stations), schedules with withdrawal and feedback data have to be submitted separately.

The necessary information includes generation data for each generation unit in power plants that feed in or withdraw for pumped storage at grid levels 1 and 3 (equal to/greater than 110 kV), or that have a net station capacity equal to/greater than 25 MW (regardless of the voltage level of the feed); this also applies to autogenerators. Power stations below grid level 3 and with a total net station capacity smaller than 25 MW must provide schedules if the control area operator or grid operator demonstrates that this information is necessary for assessing system security.

Producers and balance responsible parties can agree with the CAO that they can submit appropriately aggregated data for individual power stations instead of separate data for each unit. This is only possible where the CAO does not get added value from unit data.

The balance responsible parties send the control area operator their schedules with forecast production, pumping and feed-in data. Balance responsible parties assign one metering point per direction to each generating unit, i.e. pumped-storage power station units get two metering points each. The list of metering points, the corresponding power station units and direction is sent to the CAO and network operator. The same applies for ÖBB's feed-in points.

The CAO saves all production data (time series) into a central production schedule (database). The grid operators get access to these production data in accordance with their access rights. Production schedules for D must be sent to the CAO's central database by 14:30 hrs on D-1 (s. Figure 4).

In addition, schedules for D for power plants with volatile generation (e.g. wind parks) must be sent to the database by 14:30 hrs on D-2 (s. Figure 4).

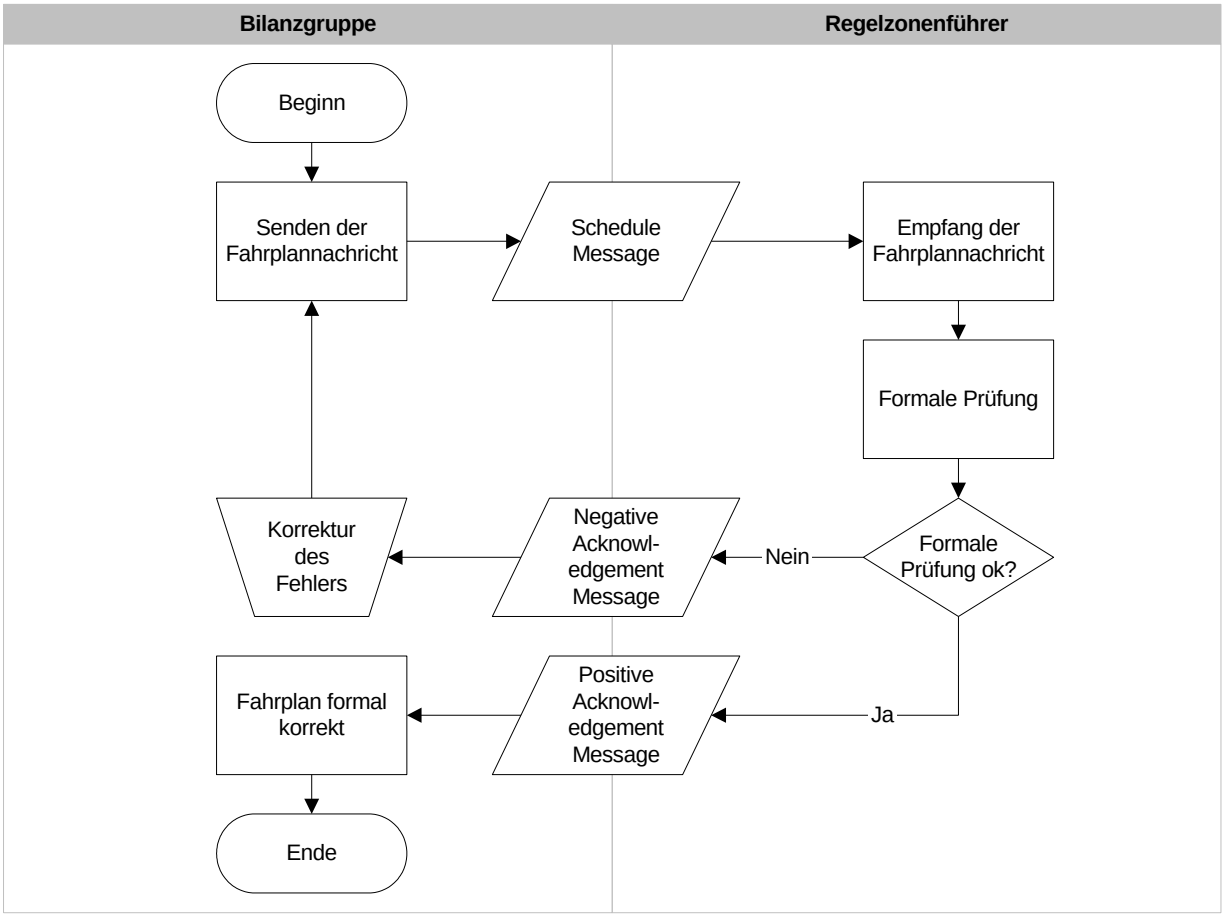
The production schedules may be adjusted at any time. If the adjustment is for more than 25 MW or more than 20% of the maximum capacity, the relevant network operators and the CAO must be informed immediately, i.e. an updated production schedule must be sent without delay if either of the two conditions is met. For power station units that participate in load frequency control, it is sufficient if planned feed-in (excluding balancing) is notified.

Should a schedule need to be changed due to a unit outage, the CAO must be notified immediately; if the affected load is above 100 MW, the CAO control room must also be informed via phone. For settlement purposes, unit outages are considered to last 15 minutes.

Non-compliance with production schedules or failure of BRPs to correct schedules is not ac-

ceptable, because both the grid operators' operational security considerations and the control area operator's load forecasts and tracking of actual load in the control area are based on this data.

Figure 4: Submission of production schedules



To assess the quality of transmitted schedules and the metered data as well as the models used (estimate of other generation, models for calculating energy flows in the grid), the grid operators and the CAO need the actual (measured) quarter-hourly readings of the generation units (and storage pumps) for which production schedules must be produced. Producers must send these to the CAO promptly (no later than on D+1). The BRP must also give the CAO, for the purposes of estimating the balancing energy requirement, a schedule for the BG's total net production and the BG's total consumption for pumped storage. Both types of production schedules (forecast generation unit data and aggregated schedules of BGs) must be contained in one message.

2.3.5 Availability schedules and notifications

To be able to assess system security, the CAO and system operator need the BGs to hand in availability information, i.e. data indicating the availability of each generation unit. This is achieved via availability schedules.

They must comprise availability data for each generation unit in power plants that feed in or withdraw for pumped storage at grid levels 1 and 3 (equal to/greater than 110 kV), or that have a net station capacity equal to/greater than 25 MW (regardless of the voltage level of the feed); this also applies to autogenerators.

Power stations below grid level 3 and with a total net station capacity smaller than 25 MW must provide availability schedules if the control area operator or grid operator demonstrates that this information is necessary for assessing system security.

Producers and balance responsible parties can agree with the CAO that they can submit appropriately aggregated data for individual power stations instead of separate data for each unit. This is only possible where the CAO does not get added value from unit data.

Balance responsible parties send availability data to the CAO (and to E-Control, under section 11 of the *Elektrizitäts-Energielenkungsdaten-Verordnung* (Electricity Intervention Data Ordinance) 2014) in the form of schedules and other notifications. The CAO saves all availability data (time series) into a central availability schedule (database). The grid operators get access to these availability data in accordance with their access rights.

Availability schedules must be sent to the CAO for several time periods:

1. **Year ahead**

   Each year by 1 August, availability information for the entire following calendar year must be submitted.

   Per unit and direction, the following time series are required:

   a) One time series indicating the ramp-up time between the call-off and the production of the maximum possible load (this normally corresponds to the maximum capacity), in hours. If units are not available (e.g. because of maintenance work or failures), a ramp-up time of “99999” hours must be indicated.
   b) One time series indicating the revised load, i.e. the load that is not available e.g. due to maintenance work or failures.
   c) One time series indicating the technical maximum capacity, i.e. the maximum possible injectable load.

   In year-ahead time series, it is sufficient if the same value is given for entire days.

2. Week ahead

Each week by 8:00 hrs on Thursday, availability information for the time from Friday of that same week up to and including Sunday of the following calendar week must be submitted.

Per unit and direction, the following time series are required:

a. One time series indicating the ramp-up time between the call-off and the production of the maximum possible load (this normally corresponds to the maximum capacity), in hours. If units are not available (e.g. because of maintenance work or failures), a ramp-up time of “99999” hours must be indicated.
b. One time series indicating the revised load, i.e. the load that is not available e.g. due to maintenance work or failures.
c. One time series indicating the maximum capacity, taking into account technical and operational restrictions and any standby capacity for primary, secondary and tertiary control.
d. One time series indicating the minimum capacity, taking into account technical and operational restrictions and any standby capacity for primary, secondary and tertiary control.

In week-ahead time series, it is sufficient if the same value is given for entire hours.

If any of the following conditions applies, any change to the availability information pursuant to points 1 and 2 that occurs after the notification deadlines specified above must be notified by submitting a revised schedule one hour after the change is decided or occurs:

- a change in load (revised load, maximum load or minimum load) of 25 MW or more
- a change in ramp-up time of 12 hours or more
- a change in ramp-up time, if either the original or the resulting ramp-up time are between 0 and 12 hours

Non-compliance with availability schedules or failure of BRPs to correct schedules is not acceptable, because both the control area operator’s and grid operators’ operational security considerations are based on this data.

In addition to the above, BRPs and producers must inform the CAO and network operator in writing immediately, and by no means later than 6 months in advance, if it is decided to mothball, preserve or shut down generation units or entire plants.

Balance responsible parties must provide contact details of a person that can be reached by phone at all times (24/7); this person must be empowered and obliged to provide additional availability information to the CAO and network operator.

2.4 Messages

With the exception of green power allocation schedules, scheduling (see section 2.3) involves an exchange between market participants of the four ESS messages described below.

- Schedule message
- Acknowledgement message (acknowledgement of receipt and result of formal validation)
- Time series anomaly report (report of schedule discrepancies)
- Time series confirmation report (confirmation report)

2.4.1 Ground rules

The entire process is based on the assumption that certain basic rules are complied with. These basic rules (as stated in the ESSIG 2.3, chapter 3.3) are:

1. Generally, a balance group communicates its global position in its schedule message.

   In the Austrian market model, this means that for one balance group all schedule time series relating to the same day and recipient (CAO or ISR) are transmitted within one message, i.e. for the same day, all external schedule time series are sent in one message to the CAO, all production schedule time series in one message to the CAO, and all internal schedule time series in one message to the ISR.

2. A time series determined by a combination of Product, Business Type, Object Aggregation, In Area, Out Area, Metering Point Identification, In Party, Out Party, Capacity Contract Type and Capacity Agreement Identification may only occur once in one schedule message.

3. Each new version of a schedule message must include all the schedule time series transmitted and formally accepted in the previous versions. The information content of a schedule message may not be reduced in scope compared with that previously accepted. This means that if for example a schedule with a time series for a specific transaction is submitted and formally accepted for a certain day and the transaction is later on cancelled, the time series concerned may not be deleted but must be retained until the end of the day in question and be zeroed out. Incomplete messages are rejected.

4. All version numbers must be sequential positive integer values with up to three digits; leading zeroes are suppressed.
5. For all schedule messages received either positive or negative acknowledgement reports are sent.
6. All time series in a formally correct schedule message may be used to balance the complementary time series as soon as these are available.
7. All times in the schedule messages are to be expressed in Coordinated Universal Time (UTC) in the format YYYY-MM-DDTHH:MMZ.
8. All the time intervals are expressed in the format YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ (e.g. 00:00Z to 01:00Z is exactly one hour).
9. The resolution of a time series is expressed in minutes; in Austria it is 15 minutes for all schedules with the exception of availability schedules (60 minutes).
10. The schedule time interval of time series must be given as whole multiple of its resolution. In Austria the schedule time interval is defined as the local-time day:
    - Normal 24 hour day (96 time intervals);
    - Start of summer time: 23 hour day (92 time intervals);
    - End of summer time: 25 hour day (100 time intervals).
11. The schedule time interval must correspond to the time intervals of the time series and is defined as the local-time day in Austria. The start and end time of the interval is expressed in UTC time.
12. No negative values are permitted in schedule time series. The direction is not defined by a sign, but by the following markers: Out Area, In Area, Out Party, In Party. The schedule time series are netted. If such a netted time series contains both directions, a schedule is needed for each direction. At any one point in time only one of these two schedules can differ from zero. For schedule time series relating to capacity reservation and allocation, section 2.4.2.4 applies.
13. A time series is deleted in a newer version of a schedule message by zeroing out all values (see also point 3 above).
14. Time series values can have up to three digits after the point; the decimal separator is the point (“.”).
15. Values for reserved capacities indicate maximum capacity. The unit is MW (code MAW).

16. Where coded names and references (identifications) are used, the coding scheme must always be supplied. The coding scheme also defines the characters permitted.

The ESS Implementation Guide (ESSIG) describes and explains the structure of messages and the elements included in the messages.

In addition, the following applies to all message types:

The address of the document type definition (DTD) within each message is given as a relative address according to the ESSIG 2.3.

If an element is not used in a message, it must not be defined as an element with the attribute = “” in the XML document but omitted completely.

To avoid generating unnecessarily large messages, it is recommended, when generating XML messages, to avoid line indents or at least use tabs.

In reason and other texts, no non-printable characters or language-specific special characters may be used apart from German umlauts.

2.4.2 Schedule message

The schedule message contains the actual schedule information. For each type of schedule (external, internal, production and availability schedule) a separate schedule message containing the time series is transmitted. The sender is responsible for the formal and factual correctness of the schedule message.

2.4.2.1 Schedule message and time series identification

The message and time series identification assigned by the sender is returned to the sender in acknowledgement, anomaly and confirmation messages and provides reference to the messages and time series submitted. The maximum length of the message and time series identification is 35 characters. Only the following characters are allowed: 0-9, A-Z, a-z, hyphen (“-”), underscore (“_”). The ESSIG defines the following rules for generating the message and time series identification:

- The sender assigns a unique identifier (message identification) to every message for each day and type of time series (external, internal, production schedules). If schedules change, the message identification remains the same, only the version number is incremented.
- The sender assigns a unique time series identification for each time series within a message. If the time series changes, the time series identification remains the same, but the time series version number is incremented. In a message for a different day (i.e.

also with a different message identification), other identifications can be assigned to the time series.

2.4.2.2 Versioning of schedule time series

When assigning version numbers, the following conventions apply: the version number starts from 1 every day and must be contained in every time series version and message version. With every change, the message version is incremented by 1, and the changed time series are marked with this new version number. As a general rule, assigning the version number is the responsibility of the sender. If the latter wishes to change a transaction already notified, it must also change the version number in line with the convention described; if the version number is not changed, the recipient might interpret the transaction as unchanged.

Example

Table 6: Initial transmission of a schedule

Message ID	Message version	Time series ID	Time series version
MUID001	1	FPL01	1
		FPL02	1
		FPL03	1

Table 7: Changing a time series

Message ID	Message version	Time series ID	Time series version
MUID001	2	FPL01	1
		FPL02	2
		FPL03	1

Table 8: Adding a new time series

Message ID	Message version	Time series ID	Time series version
MUID001	3	FPL01	1
		FPL02	2
		FPL03	1
		FPL04	3

Versioning of time series in the case of intraday changes in the APG control area:

Section 2.3.1.2 specifies the conditions for changes to external schedules on the same day. If

the intraday change is received in time, the control area operator starts to match the schedules with the neighbouring control area affected and to make the necessary changes in its systems. To be able to process an intraday change in the time allowed, care must generally be taken with an intraday change in the APG control area that only the version numbers of those schedule time series which are changed or added in the intraday change are incremented. All schedule time series not affected by the intraday change must under no circumstances have their version number (Senders Time Series Version) changed. Intraday changes that do not comply with this requirement are rejected altogether.

2.4.2.3 Code tables

The type of a schedule message (external, internal, production) and of the schedule time series it contains is defined by the codes and identifications in the elements of the XML message. The following tables describe the codes to be used according to the ESS Code list, version 23.

Table 9: Schedule message class

	External schedule to CAO	**Internal schedule to ISR**	**Production schedule to CAO**	**Availability schedule to CAO**
Message identification	See 2.4.2.1	See 2.4.2.1	See 2.4.2.1	See 2.4.2.1
Message version	See 2.4.2.2	See 2.4.2.2	See 2.4.2.2	See 2.4.2.1
Message type	A01	A01	A01	A01
Process type	A01	A01	A01	A01
Schedule classification type	A01	A01	A01	A01
Sender identification, coding scheme	EIC of BG A01	EIC of BG A01	EIC of BG A01	EIC of BG A01
Sender role	A01	A01	A06	A06
Receiver identification, coding scheme	EIC CAO A01	EIC ISR of CA A01	EIC CAO A01	EIC CAO A01
Receiver role	A04	A05	A04	A04
Message date and time	Time of message generation in UTC	Time of message generation in UTC	Time of message generation in UTC	Time of message generation in UTC
Schedule time interval	Local-time day in UTC	Local-time day in UTC	Local-time day in UTC	Local-time day in UTC

Table 10: Time series class

	External schedule time series		**Internal schedule time series**	**Production schedule time series**				**Availability schedule time series**			
	for congestion free borders	for congested borders		aggregated production	aggregated pumping	one generation unit	one pumping block	lead time	revised load	maximum load	minimum load
Senders TS Identification	See 2.4.2.1	See 2.4.2.1	See 2.4.2.1	See 2.4.2.1	See 2.4.2.1	See 2.4.2.1	See 2.4.2.1	See 2.4.2.1	See 2.4.2.1	See 2.4.2.1	See 2.4.2.1
Senders TS version	See 2.4.2.2	See 2.4.2.2	See 2.4.2.2	See 2.4.2.2	See 2.4.2.2	See 2.4.2.2	See 2.4.2.2	See 2.4.2.2	See 2.4.2.2	See 2.4.2.2	See 2.4.2.2
Business type	A06	A03	A02	A01	A04	A01	A04	A70	A53	A61	A60
Product	8716867000016	8716867000016	8716867000016	8716867000016	8716867000016	8716867000016	8716867000016	8716867000016	8716867000016	8716867000016	8716867000016
Object aggregation	A01	A01	A01	A01	A01	A02	A02	A02	A02	A02	A02
In Area coding scheme = A01	EIC of importing CA (Area)	EIC of importing CA (Area)	EIC CA (Area)	EIC CA (Area)	--	EIC CA (Area)	--	-	--	--	--
Out Area coding scheme = A01	EIC of exporting CA (Area)	EIC of exporting CA (Area)	EIC CA (Area)	--	EIC CA (Area)	--	EIC CA (Area)	--	--	--	--
Metering point ID coding scheme = NAT [3]	--	--	--	--	--	Metering point (MP)	Metering point (MP)	Metering point (MP)	Metering point (MP)	Metering point (MP)	Metering point (MP)
In Party coding scheme = A01 [1]	EIC Buyer BG	EIC Buyer BG	EIC Buyer BG	EIC BG	--	EIC BG	--	--	--	--	--
Out Party coding scheme = A01 [1]	EIC Seller BG	EIC Seller BG	EIC Seller BG	--	EIC BG	--	EIC BG	--	--	--	--
Capacity contract type	--	A01,A03,A04 or A07 [2]	--	--	--	--	--	--	--	--	--
Capacity agreement identification	--	assigned at the time of capacity allocation (s. 2.4.2.4)	--	--	--	--	--	--	--	--	--
Measurement unit	MAW	MAW	MAW	MAW	MAW	MAW	MAW	***HOU***	MAW	MAW	MAW

"--" = not used, element not contained in message

1) Coding scheme for In/Out Party in external schedule time series may not always be A01 for nominations concerning areas that do not have balance groups or areas that do not use the ENTSO-E EIC system.

2) Specifies the type of reservation.

3) National coding scheme for metering point identification.

2.4.2.4 Implementing section 4 on capacity allocation

See also section 4 on capacity allocation.

For external schedule transactions with cross-border control areas, where interconnection capacity is congested, there are different procedures for allocating capacity at interconnection points.

An external schedule time series must make absolutely clear to the control area operator which reserved capacity it refers to.

External schedule time series relating to reserved capacity use Business Type A03. The Capacity Contract element must state the type of capacity reservation (e.g. daily [A01], weekly [A02] or annual [A04]) and the Capacity Agreement Identification element must specify the contract number, to be issued by the control area operator for the reserved capacity.

External schedule time series at interconnection points without congestions use Business Type A06.

Due to the distinguishing features of external schedule time series one schedule message may include several time series that describe transactions with the same trading partner. These time series differ from each other in at least one of the elements Business Type, Capacity Contract or Capacity Agreement Identification. Section 5.2 gives examples for external schedule messages.

2.4.2.5 Examples

For additional examples, see also section 5.2

External schedule message:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE ScheduleMessage SYSTEM "../scheduleV2r3/dtd/schedule-xml.dtd">
<ScheduleMessage DtdVersion="2" DtdRelease="3">
      <MessageIdentification v="12345"/>
      <MessageVersion v="1"/>
```

```
      <MessageType v="A01"/>
      <ProcessType v="A01"/>
      <ScheduleClassificationType v="A01"/>
      <SenderIdentification v="13XBILANZGR-2--Q" codingScheme="A01"/>
      <SenderRole v="A01"/>
      <ReceiverIdentification v="10XAT-APG------Z" codingScheme="A01"/>
      <ReceiverRole v="A04"/>
      <MessageDateTime v="2003-01-30T11:24:35Z"/>
      <ScheduleTimeInterval v="2003-01-30T23:00Z/2003-01-31T23:00Z"/>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="TS0001"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A06"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A01"/>
            <InArea v="10YAT-APG------L" codingScheme="A01"/>
            <OutArea v="10YAT-TIRAG-N--Q" codingScheme="A01"/>
            <InParty v="13XBILANZGR-2--Q" codingScheme="A01"/>
            <OutParty v="13XBILANZGR-2--Q" codingScheme="A01"/>
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2003-01-30T23:00Z/2003-01-31T23:00Z"/>
                  <Resolution v="PT15M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="50.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="50.000"/>
                  </Interval>
                  .
                  .
                  .
                  .
                  .
                  <Interval>
                        <Pos v="95"/>
                        <Qty v="50.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="96"/>
                        <Qty v="50.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
</ScheduleMessage>
```

Internal schedule message:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE ScheduleMessage SYSTEM "../scheduleV2r3/dtd/schedule-xml.dtd">
<ScheduleMessage DtdVersion="2" DtdRelease="3">
      <MessageIdentification v="1234"/>
      <MessageVersion v="1"/>
      <MessageType v="A01"/>
      <ProcessType v="A01"/>
      <ScheduleClassificationType v="A01"/>
```

```
      <SenderIdentification v="14XBILANZGR-1--F" codingScheme="A01"/>
      <SenderRole v="A01"/>
      <ReceiverIdentification v="14XAT-APCS-----Q" codingScheme="A01"/>
      <ReceiverRole v="A05"/>
      <MessageDateTime v="2003-01-30T11:24:35Z"/>
      <ScheduleTimeInterval v="2003-01-30T23:00Z/2003-01-31T23:00Z"/>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="TS0001"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A02"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A01"/>
            <InArea v="10YAT-APG------L" codingScheme="A01"/>
            <OutArea v="10YAT-APG------L" codingScheme="A01"/>
            <InParty v="14XBG-EMPFANG--0" codingScheme="A01"/>
            <OutParty v="14XBILANZGR-1--F" codingScheme="A01"/>
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2003-01-30T23:00Z/2003-01-31T23:00Z"/>
                  <Resolution v="PT15M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="45.200"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="40.000"/>
                  </Interval>
                  .
                  .
                  .
                  .
                  <Interval>
                        <Pos v="95"/>
                        <Qty v="45.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="96"/>
                        <Qty v="40.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
</ScheduleMessage>
```

External production schedule message: Aggregated production, production per unit, aggregated pumping electricity, pumping per unit

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE ScheduleMessage SYSTEM "../scheduleV2r3/dtd/schedule-xml.dtd">
<ScheduleMessage DtdVersion="2" DtdRelease="3">
      <MessageIdentification v="ERZ-1234"/>
      <MessageVersion v="1"/>
      <MessageType v="A01"/>
      <ProcessType v="A01"/>
      <ScheduleClassificationType v="A01"/>
      <SenderIdentification v="13XVERBUND1234-P" codingScheme="A01"/>
      <SenderRole v="A06"/>
      <ReceiverIdentification v="10XAT-APG------Z" codingScheme="A01"/>
```

```
      <ReceiverRole v="A04"/>
      <MessageDateTime v="2003-01-30T11:24:35Z"/>
      <ScheduleTimeInterval v="2003-01-30T23:00Z/2003-01-31T23:00Z"/>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="TS0001"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A01"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A01"/>
            <InArea v="10YAT-APG------L" codingScheme="A01"/>
            <InParty v="13XVERBUND1234-P" codingScheme="A01"/>
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2003-01-30T23:00Z/2003-01-31T23:00Z"/>
                  <Resolution v="PT15M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="100.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="100.000"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="95"/>
                        <Qty v="100.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="96"/>
                        <Qty v="100.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="TS0002"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A01"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <InArea v="10YAT-APG------L" codingScheme="A01"/>
            <MeteringPointIdentification
v="AT00000000000KRAFTWERK0XY0000000V" codingScheme= "NAT" />
            <InParty v="13XVERBUND1234-P" codingScheme="A01"/>
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2003-01-30T23:00Z/2003-01-31T23:00Z"/>
                  <Resolution v="PT15M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="65.500"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="65.500"/>
                  </Interval>
                  .
                  .
```

```
                  .
                  <Interval>
                        <Pos v="95"/>
                        <Qty v="65.500"/>
                  </Interval>
                  <Interval>
                        <Pos v="96"/>
                        <Qty v="65.500"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="TS0003"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A04"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A01"/>
            <OutArea v="10YAT-APG------L" codingScheme="A01"/>
            <OutParty v="13XVERBUND1234-P" codingScheme="A01"/>
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2003-01-30T23:00Z/2003-01-31T23:00Z"/>
                  <Resolution v="PT15M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="75.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="75.000"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="95"/>
                        <Qty v="75.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="96"/>
                        <Qty v="75.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="TS0004"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A04"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <OutArea v="10YAT-APG------L" codingScheme="A01"/>
                <MeteringPointIdentification
v="AT00000000000PUMPE0KRAFTWERK0XY0V" codingScheme= "NAT" />
            <OutParty v="13XVERBUND1234-P" codingScheme="A01"/>
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2003-01-30T23:00Z/2003-01-31T23:00Z"/>
                  <Resolution v="PT15M"/>
                  <Interval>
                        <Pos v="01"/>
```

```
                        <Qty v="55.500"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="55.500"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="95"/>
                        <Qty v="55.500"/>
                  </Interval>
                  <Interval>
                        <Pos v="96"/>
                        <Qty v="55.500"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
</ScheduleMessage>
```

Availability schedule message: The below message shows version 1 of each time series (lead time, revised load, maximum and minimum load) of a generation unit, as submitted on 1 August of the year ahead.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE ScheduleMessage SYSTEM "../scheduleV2r3/dtd/schedule-xml.dtd">
<ScheduleMessage DtdVersion="2" DtdRelease="3">
      <MessageIdentification v="PAS_001"/>
      <MessageVersion v="1"/>
      <MessageType v="A01"/>
      <ProcessType v="A01"/>
      <ScheduleClassificationType v="A01"/>
      <SenderIdentification v="13XVERBUND1234-P" codingScheme="A01"/>
      <SenderRole v="A06"/>
      <ReceiverIdentification v="10XAT-APG------Z" codingScheme="A01"/>
      <ReceiverRole v="A04"/>
      <MessageDateTime v="2014-07-31T12:00:00Z"/>
      <ScheduleTimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Vorlaufzeit_Erz_Block_1"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A70"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000ERZEBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="HOU"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="1.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="1.000"/>
                  </Interval>
                  .
```

```
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="1.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="1.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Revidiert_Erz_Block_1"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A53"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000ERZEBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="0.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="0.000"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="0.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="0.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Obergrenze_Erz_Block_1"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A61"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000ERZEBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="150.000"/>
```

```
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="150.000"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="150.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="150.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Untergrenze_Erz_Block_1"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A60"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000ERZEBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="0.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="0.000"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="0.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="0.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
</ScheduleMessage>
```

2.4.3 Acknowledgement message

After receipt of a schedule message it is validated for formal correctness. The sender of a schedule message receives the result of this validation in the form of an acknowledgement

message. This also acts as confirmation of receipt for the sender.

If there is a formal error in a schedule message, the whole schedule message is rejected. If this happens, the formal errors are communicated to the sender of the schedule message in the acknowledgement message with Reason Codes.

Feedback on formal errors found may take place at several levels with elements called Reason Codes (see section 2.4.3.1).

Several Reason Code elements may be contained at each level. The reason text of a Reason Code element can contain more detailed information about the error.

2.4.3.1 Reason Codes

Message level:

The Reason Code elements at this level describe the overall result of the formal validation and the status of the schedule message at the recipient.

Table 11: Reason Codes for acknowledgement messages at message level

Reason Code	Meaning	Reason text (optional)
A01	Full message formally accepted	
A02	Full message rejected (additional codes describe reason for rejection)	
A03	Faulty time series, described with Reason Codes at time series level (not used)	
A04	Time interval of schedule message is faulty, e.g. no local-time day	
A05	Sender is not an active balance group	
A51	Same or later version of schedule message previously received	
A52	One or more time series missing (message information content reduced)	
A53	Incorrect recipient	
A57	Legitimate deadline exceeded, e.g. external schedule received for an earlier day, or internal schedule received after end of clearing.	
A59	Message does not conform to market rules	Further explanation

Time series level:

The Reason Code elements at this level describe errors in the time series identified by a time series rejection element.

Table 12: Reason Codes for acknowledgement messages at time series level

Reason Code	Meaning	Reason text (optional)
A20	Full time series rejected (other codes describe reason for rejection)	
A04	Time interval of time series is not the same as in message header (no local-time day)	
A22	Error in In Party or Out Party (e.g. unknown EIC)	
A23	Error related to control area (e.g. incorrect EIC or unknown control area)	
A27	Reserved capacity exceeded	
A41	No 15-minute intervals in time series	
A50	Version conflict in time series	
A55	Error in time series identification (e.g. time series exists more than once)	
A59	Message does not conform to market rules	Further explanation
A75	At the time of submission, there is no valid rights document for the time series	No rights document arrived yet

Time interval level:

The Reason Code elements at this level describe errors concerning individual intervals and values of a time series. The interval affected is identified by a time interval error element.

Table 13: Reason Codes for acknowledgement messages at time interval level

Reason Code	Meaning	Reason text (optional)
A42	Invalid value (e.g. more than three digits after the point, decimal separator is not a point, no number)	
A46	Negative value	
A49	Error in position number of value (e.g. number missing or outside value range)	

A59	Message does not conform to market rules	Further explanation

A fully accepted schedule message contains only the elements of the Acknowledgement Message Class and a Reason Code element with the Code A01; a rejected schedule message contains the Code A02 and at least one other Code.

It is the responsibility of the sender of a schedule message to submit schedule messages that are correct in form and content. It cannot be assumed that a formal validation process will reveal all possible formal errors.

2.4.3.2 Example

Acknowledgement message: Full message formally accepted

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE AcknowledgementMessage SYSTEM "../scheduleV2r3/dtd/acknowledgement-
xml.dtd">
<AcknowledgementMessage DtdVersion="2" DtdRelease="3">
      <MessageIdentification v="RZ-Ack-ID-2345"/>
      <MessageDateTime v="2003-01-30T12:00:00Z"/>
      <SenderIdentification v="10XAT-APG------Z" codingScheme="A01"/>
      <SenderRole v="A04"/>
      <ReceiverIdentification v="13XBILANZGR-2--Q" codingScheme="A01"/>
      <ReceiverRole v="A01"/>
      <ReceivingMessageIdentification v="1234"/>
      <ReceivingMessageVersion v="1"/>
      <Reason>
            <ReasonCode v="A01"/>
      </Reason>
</AcknowledgementMessage>
```

2.4.4 Time series anomaly report

The sender of a schedule message can receive one or more time series anomaly report messages, informing of discrepancies with counterpart time series and/or the violation of restrictions. Normally, a time series anomaly report contains only the time series identified as incorrect. It should be noted, however, that not all incorrect time series must be contained in one anomaly report (the necessary information may not be available yet, e.g. no counterpart time series available). In extreme cases several anomaly reports may be received for one time series.

Balance groups can also receive time series anomaly reports when they have not sent a schedule message, but other schedule messages do contain time series referring to this balance group.

Instead of this report, the sender may also be informed by telephone or via other channels

(e.g. the Internet).

For internal schedules the GTC ISR specify in what format the results of the matching process are provided to the market players (time series anomaly report or information on the Internet).

2.4.4.1 Reason codes

Table 14 gives the Reason codes possible in an anomaly report.

Table 14: Reason codes in anomaly reports

Reason code	Meaning	Reason text (optional)
A09	Time series do not correspond (both time series are contained in the anomaly report)	
A27	Capacity limit to neighbouring control area exceeded	
A28	No counterpart time series received	
A29	Differing values in counterpart schedule, the time series of the counterpart schedule is accepted according to the market rules	

2.4.4.2 Example

External schedule - no counterpart time series received

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE AnomalyReport SYSTEM "../scheduleV2r3/dtd/anomaly-xml.dtd">
<AnomalyReport DtdVersion="2" DtdRelease="3">
      <MessageIdentification v="1234QRP"/>
      <MessageDateTime v="2003-02-18T13:30:00Z"/>
      <SenderIdentification v="10XAT-APG------Z" codingScheme="A01"/>
      <SenderRole v="A04"/>
      <ReceiverIdentification v="14XBILANZGRP1-1T" codingScheme="A01"/>
      <ReceiverRole v="A01"/>
      <ScheduleTimeInterval v="2003-02-18T23:00Z/2003-02-19T23:00Z "/>
      <TimeSeriesAnomaly>
            <MessageSenderIdentification v="11X000000340533X"
codingScheme="A01"/>
            <SendersMessageIdentification v="1234"/>
            <SendersMessageVersion v="1"/>
            <SendersTimeSeriesIdentification v="TS0001"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A06"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A01"/>
            <InArea v="10YAT-APG------L" codingScheme="A01"/>
            <OutArea v="10YAT-TIRAG-N--Q" codingScheme="A01"/>
            <InParty v="14XBILANZGRP1-1T" codingScheme="A01"/>
            <OutParty v="14XBILANZGRP1-1T" codingScheme="A01"/>
            <MeasurementUnit v="MAW"/>
            <Period>
```

```
                  <TimeInterval v="2003-02-18T23:00Z/2003-02-18T23:00Z"/>
                  <Resolution v="PT15M"/>
                  <Interval>
                        <Pos v="1"/>
                        <Qty v="40"/>
                  </Interval>
                  <Interval>
                        <Pos v="2"/>
                        <Qty v="45"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="95"/>
                        <Qty v="40"/>
                  </Interval>
                  <Interval>
                        <Pos v="96"/>
                        <Qty v="45"/>
                  </Interval>
            </Period>
            <Reason>
                  <ReasonCode v="A28"/>
            </Reason>
      </TimeSeriesAnomaly>
</AnomalyReport>
```

2.4.5 Time series confirmation report

A time series confirmation report is a confirmation for the sender of a schedule message after completion of matching, containing the time series relevant for calculating imbalances.

Time series confirmation elements describe the time series contained in the schedule message that were accepted. If the values had to be changed, this is shown by corresponding Reason Code elements.

Imposed time series elements describe time series that were not contained in the schedule message, but which, on the basis of market rules or contractual agreements, are imposed on the balance group (e.g. stock market and green electricity time series, or receiving party schedule from a counterpart time series, etc.). In such situations a balance group may receive a time series confirmation message even if it has not sent a schedule message.

Time series rejected in the formal validation process are not included in the confirmation report.

It should be noted that several time series confirmation reports can be received for one schedule message. A report with a more recent MessageDateTime replaces a previous one. It is always the MessageDateTime that is decisive, rather than the chronological order of arrival with the recipient.

A time series confirmation report always contains all the time series and values (including interval values), even if the time series was not changed.

For internal schedules the GTC ISR specify in what format the schedules submitted for clearing and settlement are provided to the market players (time series confirmation report or information on the Internet).

2.4.5.1 Reason codes

In the following table the possible reason codes in a confirmation report are listed.

Table 15: Reason codes in confirmation reports at message level

Reason code	Meaning	Reason text (optional)
A06	The time series formally accepted in phase 1 apply unchanged	
A07	The time series formally accepted in phase 1 were changed or new ones added. The changed or added time series are identified by reason codes at time series level	

Table 16: Reason codes in confirmation reports at time series level

Reason code	Meaning	Reason text (optional)
A20	Full time series rejected (values are zeroed out)	
A26	Schedule time series changed	
A30	Schedule time series added	

2.4.5.2 Examples

Confirmation of external schedule - the formally accepted schedule time series are executed unchanged

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE ConfirmationReport SYSTEM "../scheduleV2r3/dtd/confirmation-
xml.dtd">
<ConfirmationReport DtdVersion="2" DtdRelease="3">
      <MessageIdentification v="CNF-678"/>
      <MessageType v="A08"/>
      <MessageDateTime v="2003-01-30T15:30:00Z"/>
      <SenderIdentification v="10XAT-APG------Z" codingScheme="A01"/>
      <SenderRole v="A04"/>
      <ReceiverIdentification v="13XBILANZGR-2--Q" codingScheme="A01"/>
      <ReceiverRole v="A01"/>
      <ScheduleTimeInterval v="2003-01-30T23:00Z/2003-01-31T23:00Z"/>
      <ConfirmedMessageIdentification v="1234"/>
```

```
      <ConfirmedMessageVersion v="1"/>
      <Reason>
            <ReasonCode v="A06"/>
      </Reason>
      <TimeSeriesConfirmation>
            <SendersTimeSeriesIdentification v="TS0001"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A06"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A01"/>
            <InArea v="10YAT-APG------L" codingScheme="A01"/>
            <OutArea v="10YAT-TIRAG-N--Q" codingScheme="A01"/>
            <InParty v="13XBILANZGR-2--Q" codingScheme="A01"/>
            <OutParty v="13XBILANZGR-2--Q" codingScheme="A01"/>
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2003-01-30T23:00Z/2003-01-31T23:00Z"/>
                  <Resolution v="PT15M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="50.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="50.000"/>
                  </Interval>
                  .
                  .
                  .
                  .
                  <Interval>
                        <Pos v="95"/>
                        <Qty v="50.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="96"/>
                        <Qty v="50.000"/>
                  </Interval>
            </Period>
      </TimeSeriesConfirmation>
</ConfirmationReport>
```

3. Transmission of messages

3.1 Principles

XML messages are transmitted via Internet mail (SMTP protocol) as non-compressed attachments to e-mails. The e-mail format used must be text-only or HTML. The mail body and special settings such as priorities, tracking tags etc., do not have to be analysed by the recipient.

As a general rule only one message may be transmitted in each e-mail (see also section 3.3).

Each possible recipient of such messages must set up an e-mail address for the receipt of messages; this address is to be used for the purpose of data exchange exclusively. Other messages should be sent to the various other dedicated administrative e-mail addresses; the recipient is not obliged to analyse e-mails sent to the e-mail address designated for data exchange if the subject line does not comply with the conventions defined below.

E-mails must be signed with S/MIME and may be encrypted. The certificates needed must be obtained from a trustworthy certification body for the dedicated data e-mail address. All intermediate and root certificates must be provided to the recipient.

If messages are encrypted, the market player and CAO / ISR must exchange their public keys via a signed e-mail.

The sender of a schedule message receives from the recipient, i.e. the CAO in the case of external and production schedules and the ISR in the case of internal schedules, an active acknowledgement of receipt in the form of an acknowledgement message. Without this confirmation, the sender must assume that the recipient has not received the message.

3.2 File naming convention for e-mail attachments

To ensure that unique file names are used and to simplify the administration of files and e-mails sent and received, the following file naming convention applies:

Table 17: File names for e-mail attachments

Schedule message to CAO and ISR	[jjjjmmdd]_[Art]_[EIC-BG]_[EIC-RZF/BKO]_[VVV].xml
Acknowledgement of schedule message	[jjjjmmdd]_[Art]_[EIC-BG]_[EIC-RZF/BKO]_[VVV]_ACK.xml
Anomaly messages for a schedule message	[jjjjmmdd]_[Art]_[EIC-BG]_[EIC-RZF/BKO]_[VVV]_ANO_[zeitstempel].xml
Confirmation (intermediate, final)	[jjjjmmdd]_[Art]_[EIC-BG]_[EIC-RZF/BKO]_[VVV]_CNF_[zeitstempel].xml

[jjjjmmdd] Date of local-time day to which message content refers, in the format YYYYMMDD, e.g. 20030127 for 27 January 2003

[Art] Type of schedule message:

- TPA for external and internal schedules (**T**rade Responsible **P**arty **S**chedule)
- PPS for production schedules (**P**roduction Responsible **P**arty **S**chedule)
- PAS for availability schedules (**P**roduction **A**vailability **S**chedule)

[EIC-BG] EIC code of sender of schedule message. This is the EIC code of the balance group.

[EIC-RZF/BKO] EIC code of recipient of the schedule message. In the case of external schedules this is the CAO's EIC code (party code of the CAO, e.g. 10XAT-TIRAG-N—Q, see Table 3: EIC party code for control area operators (system operators) and EIC area code for control areas (balance areas) in Austria); in the case of internal schedules this is the EIC code of the control area's ISR

[VVV] Version of schedule message. The version is a 3-digit number with leading zeroes. In the case of an anomaly or confirmation message where no schedule message was submitted (e.g. in the course of applying default rules), the version is given as "000".

[Zeitstempel] UTC time of generation of an anomaly or confirmation message. The time stamp allows distinguishing between several anomaly and, if applicable, confirmation messages for one schedule message. Format: **YYYY-MM-TTThh-mm-ssZ**

File names do not have to be cross-checked with the content of the files. It is always the content of a file that is decisive.

3.3 Subject line convention

The subject line is composed as follows:

DATA[SP]filename_without_extension

whereby [SP] indicates a space.

There is no further information about the content of the attached file in the subject line; the re-

cipient has to “open” it. Content-related information may be attached to the subject line text if required, e.g. “[SP]OK”, “[SP]ERROR”, “[SP]CHANGE”.

If the recipient accepts several attachments of the same type in one e-mail, the file name of the first attachment is used in the subject line.

3.4 E-mail addresses for returning messages

The ESS schedule message itself does not contain any information on the sender (telephone number, name, e-mail). In order to make phone contact in the event of error, it is of particular importance that the 24-hour call number given in the BRP licensing process is up to date and any changes are notified immediately.

The only addresses available for the return of acknowledgement, anomaly and confirmation messages are therefore the e-mail address for data exchange (through which the message was sent) and the master e-mail address saved for the BG.

The return message is always sent to the e-mail address for data exchange. It may additionally be sent to the master e-mail address of the balance group if these are not the same.

3.5 Handling uninterpretable messages

If the content of schedule messages cannot be interpreted (syntactical errors, content missing, truncated, etc.), an acknowledgement message cannot be returned. In this case the recipient can return the following e-mail:

Subject line: FATALERROR[SP]“Subject line of uninterpretable message”

In the body text or in a text attachment (.txt extension) additional text can give further information on the cause of the error.

The recipient of such an e-mail must never respond to it by returning a “Message uninterpretable” message in order to avoid messages bouncing back and forth.

4. Capacity allocation

Capacity for cross-border transactions on congested interconnections is allocated through market-based procedures. EU legislation (in particular Regulation (EC) No 714/2009 and the Congestion Management Guidelines) provides that market-based procedures be used to allocate capacity at congested country or zonal borders to market players. Normally, the capacity is auctioned off. Auctions for the different borders are held by different offices. The CAO publishes further relating information on its website and informs BRPs of any changes well ahead of time.

5. Annex

5.1 Description of segments

Convention for segment documentation:

SEGMENT		**Description of segment**
Data element group: Data element	Description of data element	*Text in italics contains a more detailed description of how the content of the data element should (must) be defined.*
Data element group: Data element	Description of data element	Text that is not in italics means the data element always has the given value.
Data element	Description of data element	
Example of segment		

<?xml version="1.0" encoding= "UTF-8"?>		**XML file header**
xml	File type	
version=	Message type version number	1.0
encoding=	character set	UTF-8
<?xml version="1.0" encoding= "UTF-8"?>		

DOCTYPE		**DTD information**
ScheduleMessage	XML document root element	ScheduleMessage
SYSTEM	DTD address	"../scheduleV2r3/dtd/schedule-xml.dtd"
<!DOCTYPE ScheduleMessage SYSTEM "../scheduleV2r3/dtd/schedule-xml.dtd">		

ScheduleMessage		**DTD version**
DtdVersion	DTD version information	"2"
DtdRelease	DTD release information	"3"
<ScheduleMessage DtdVersion="2" DtdRelease="3">		

MessageIdentification		**Schedule ID**
v=	unique message ID issued by the sender in accordance with ESSIG v2.3 and section 2.4.2.1; max. 35 characters, restricted to 0-9, A-Z, a-z, hyphen (“-”) and underscore (“_”)	
<MessageIdentification v="20030701_TPS_BG01"/>		

MessageVersion		**Schedule version**
v=	Schedule version number, $1 \leq n \leq 999$	
<MessageVersion v="1"/>		

MessageType		**Type of schedule**
v=	BRP schedule (external, internal, generation, availability)	A01
	Schedule allocating capacity to a market participant	A02
	Control area schedule	A04
	Control block schedule	A05
	Coordination centre schedule; includes all programs for entry into UCTE north and south	A06
<MessageType v="A01"/>		

ProcessType		**Process for which the data are submitted**
v=	Day-ahead schedule	A01
	Intra-day schedule (not used in Austria)	A02
<ProcessType v="A01"/>		

ScheduleClassificationType		**Schedule classification**
v=	Exchange type; schedule serves to exchange detailed schedule time series between two market players	A01
	Summary type; schedule include aggregate schedule time series between two control areas; only used between CAOs	A02
<ScheduleClassificationType v="A01"/>		

SenderIdentification		**Sender ID**
v=	identification of the market player	
codingScheme	ENTSO codes (EIC)	A01
	EAN codes	A10
	Austrian national coding scheme	NAT
<SenderIdentification v="9783446215849" codingScheme="A10"/>		

SenderRole		**Sender role**
v=	trade responsible party	A01
	Control area operator (system operator)	A04
	Imbalance settlement responsible	A05
	Production responsible party	A06
	Transmission capacity allocator (e.g. auction office)	A07
<SenderRole v="A01"/>		

ReceiverIdentification		**Recipient ID**
v=	Identification of message recipient	
codingScheme	If ENTSO codes are used	A01
	If EAN codes are used	A10
	If national codes are used	NAT
<ReceiverIdentification v="10XAT-APG------Z " codingScheme="A01"/>		

ReceiverRole		**Recipient role**
v=	s. SenderRole	
<ReceiverRole v="A06"/>		

MessageDateTime		**Document date**
v=	Date and time of document creation, written in UTC format	YYYY-MM-DDTHH:MM:SSZ
<MessageDateTime v="2003-01-20T10:09:21Z"/>		

ScheduleTimeInterval		**Schedule period**
v=	schedule validity period, written in UTC format	YYYY-mm-DDTHH:MM/YYYY-MM-DDTHH:MM
<ScheduleTimeInterval v="2003-01-19T23:00Z/2003-01-20T23:00Z"/>		

SendersTimeSeriesIdentification		**Time series ID**
v=	time series ID issued by the sender in accordance with ESSIG v2.3 and section 2.4.2.1; max. 35 characters, restricted to 0-9, A-Z, a-z, hyphen (“-”) and underscore (“_”)	
<SendersTimeSeriesIdentification v="TS-01"/>		

SendersTimeSeriesVersion		**Time series version**
v=	Time series version number, $1 \leq n \leq 999$	
<SendersTimeSeriesVersion v="1"/>		

BusinessType		**Business type**
v=	generation	A01
	trade within a control area	A02
	trade between control areas, including reference to reserved capacity	A03
	consumption	A04
	aggregated external schedules	A05
	trade between control areas, without reference to reserved capacity	A06
	lead time (for availability schedules)	A70
	revised load (for availability schedules)	A53
	maximum capacity (for availability schedules)	A61
	minimum capacity (for availability schedules)	A60
<BusinessType v="A02"/>		

Product		**Product ID**
v=	active power	8716867000016
	active energy	8716867000030
<Product v="8716867000016"/>		

ObjectAggregation		**Information on the referenced object**
v=	control area	A01
	metering point	A02
<ObjectAggregation v="A01"/>		

InArea		**Control area importing/receiving energy**
v=	importing control area ID	
codingScheme	ENTSO codes	A01
	EAN codes	A10
<InArea v="10Y-AREA-XY----F " codingScheme="A01"/>		

OutArea		**Control area exporting/supplying energy**
v=	exporting control area ID	
codingScheme	A01	ENTSO codes
	A10	EAN codes
<OutArea v="10Y-AREA-XY----F " codingScheme="A01"/>		

InParty		**Importing balance group, buyer**
v=	market player ID (buyer ID)	
codingScheme	ENTSO codes	A01
	EAN codes	A10
	Austrian naming scheme (alias); this coding scheme may only be used as part of external schedules when identifying trading partners active in control areas that do not apply EIC or EAN	NAT
<InParty v="13X-VKW-HANDEL-M" codingScheme="A01"/>		

OutParty		**Exporting balance group, seller**
v=	market player ID (seller ID)	
codingScheme	ENTSO codes	A01
	EAN codes	A10
	Austrian naming scheme (alias); this coding scheme may only be used as part of external schedules when identifying trading partners active in control areas that do not apply EIC or EAN	NAT
<OutParty v="13X-VKW-HANDEL-M " codingScheme="A01"/>		

MeteringPointIdentification		**Metering point reference number**
v=	reference number of the (virtual) metering point	
codingScheme	ENTSO codes	A01
	EAN codes	A10
	Austrian national coding convention for metering point reference numbers	NAT
<MeteringPointIdentification v="AT00000000000KRAFTWERK0XY0000000V" codingScheme="NAT"/>		

MeasurementUnit		**Unit used for quantities (Qty=)**
v=	megawatts (MW)	MAW
	megawatt hours (MWh)	MWH
	reactive megavolt ampere hours (Mvarh)	MAH
	reactive megavolt ampere (Mvar)	MAR
	hours	HOU
<MeasurementUnit v="MAW"/>		

CapacityContractType		**Type of capacity contract**
v=	daily (e.g. daily capacity reservation, daily auction, daily capacity allocation)	A01
	weekly (e.g. weekly capacity reservation, weekly reservation, weekly auction)	A02
	monthly (e.g. monthly capacity reservation, monthly auction)	A03
	annual (e.g. annual capacity reservation, annual reservation, annual auction)	A04
	total (sum of capacity reservations; in Austria, these message are used in case of split capacities)	A05
	intraday (e.g. reservation as part of intraday trade)	A07
<CapacityContractType v="A04"/>		

CapacityAgreementIdentification		**Capacity reservation ID**
v=	unique ID of capacity reservation; the ID is issued by the capacity allocation office and communicated to the balance group; max. 35 characters	
<CapacityAgreementIdentification v="CAP-CZ-001"/>		

TimeInterval		**Time series validity period**
v=	validity period of the time series, written in UTC format	YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ
<Period> <TimeInterval v="2003-01-19T23:00Z/2003-01-20T23:00Z"/>		

Resolution		**Resolution**
v=	resolution / granularity of time series values for external, internal and generation schedules	PT15M
	availability schedules	PT60M
<Resolution v="PT15M"/>		

Time series structure	
<Period>	
<TimeInterval v="2003-01-19T23:00Z/2003-01-20T23:00Z"/>	validity period of the schedule, written in UTC format
<Resolution v="PT15M"/>	15 minutes
<Interval>	start of 15-minute element
<Pos v="01"/>	1st 15-minute period
<Qty v="0.194"/>	quantity of energy transported during the 1st 15 minutes
</Interval>	end of 15-minute element
<Interval>	start of 15-minute element
<Pos v="02"/>	2nd 15-minute period
<Qty v="0.212"/>	quantity of energy transported during the 2nd 15 minutes
</Interval>	end of 15-minute element
.	
.	
.	
<Interval>	start of 15-minute element
<Pos v="96"/>	96th 15-minute period
<Qty v="0.220"/>	quantity of energy transported during the 96th 15 minutes
</Interval>	end of 15-minute element
</Period>	

5.2 Additional examples for schedule messages

Example 1: External schedule without capacity constraints

The “13XBILANZGRUPPE4” balance group concludes two trades for 2 December 2003. The

first is a 25 MW baseload import from an adjacent control area to the APG control area; the second is a 6 MW baseload export from the APG control area to an adjacent control area.

As there is no congestion between the adjacent and APG control areas in 2003, a netted schedule from the adjacent control area to the APG control area for baseload supply of 19 MW, Business Type A06, has to be transmitted. The schedule message in the APG control area is shown below.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE ScheduleMessage SYSTEM "../scheduleV2r3/dtd/schedule-xml.dtd">
<ScheduleMessage DtdVersion="2" DtdRelease="3">
      <MessageIdentification v="12345"/>
      <MessageVersion v="1"/>
      <MessageType v="A01"/>
      <ProcessType v="A01"/>
      <ScheduleClassificationType v="A01"/>
      <SenderIdentification v="13XBILANZGRUPPE4" codingScheme="A01"/>
      <SenderRole v="A01"/>
      <ReceiverIdentification v="10XAT-APG------Z" codingScheme="A01"/>
      <ReceiverRole v="A04"/>
      <MessageDateTime v="2003-12-01T11:24:35Z"/>
      <ScheduleTimeInterval v="2003-12-02T23:00Z/2003-12-02T23:00Z"/>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="TS0001"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A06"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A01"/>
            <InArea v="10YAT-APG------L" codingScheme="A01"/>
            <OutArea v="10YAT-TIRAG-N--C" codingScheme="A01"/>
            <InParty v="13XBILANZGRUPPE4" codingScheme="A01"/>
            <OutParty v="13XBILANZGRUPPE4" codingScheme="A01"/>
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2003-12-01T23:00Z/2003-12-02T23:00Z"/>
                  <Resolution v="PT15M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="19.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="19.000"/>
                  </Interval>
                  .
                  .
                  .
                  .
                  .
                  <Interval>
                        <Pos v="95"/>
                        <Qty v="19.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="96"/>
                        <Qty v="19.000"/>
```

```
                </Interval>
            </Period>
      </ScheduleTimeSeries>
</ScheduleMessage>
```

Example 2: External schedule with reserved capacities

Capacity between the CEPS and APG control areas for the year 2003 was auctioned by CEPS.

At the interconnection point between CEPS and APG the “13XBILANZGRUPPE4” balance group purchased an import capacity of 15 MW (baseload) in the 2003 annual auction (contract number CEPS-APG-Y-2723) and 5 MW (baseload) in the daily auction for 2 December 2003 (contract number CEPS-APG-D-14356). Subject to the statutory provisions governing imports from third countries, the balance group imports 20 MW in the form of a baseload delivery from the cross-border trading partner PL-TRADE on 2 December 2003.

The schedule message submitted contains two schedule time series referencing, firstly, the purchased annual capacity and, secondly, the daily capacity via the elements Capacity Contract Type (A01 - Daily, A04 - Annual) and Capacity Agreement Identification (contract numbers CEPS-APG-Y-2723 and CEPS-APG-D-14356). It should also be noted that this example assumes that for the cross-border trading partner no EIC is available and the alias name of the national coding scheme NAT is used as party ID instead.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE ScheduleMessage SYSTEM "../scheduleV2r3/dtd/schedule-xml.dtd">
<ScheduleMessage DtdVersion="2" DtdRelease="3">
      <MessageIdentification v="Ext-2345"/>
      <MessageVersion v="1"/>
      <MessageType v="A01"/>
      <ProcessType v="A01"/>
      <ScheduleClassificationType v="A01"/>
      <SenderIdentification v="13XBILANZGRUPPE4" codingScheme="A01"/>
      <SenderRole v="A01"/>
      <ReceiverIdentification v="10XAT-APG------Z" codingScheme="A01"/>
      <ReceiverRole v="A04"/>
      <MessageDateTime v="2003-12-01T11:24:35Z"/>
      <ScheduleTimeInterval v="2003-12-02T23:00Z/2003-12-02T23:00Z"/>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="TS0001"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A03"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A01"/>
            <InArea v="10YAT-APG------L" codingScheme="A01"/>
            <OutArea v="10YCZ-CEPS-----N" codingScheme="A01"/>
            <InParty v="13XBILANZGRUPPE4" codingScheme="A01"/>
            <OutParty v="PL-TRADE" codingScheme="NAT"/>
            <CapacityContractType v= "A04"/>
            <CapacityAgreementIdentification v= "CEPS-APG-Y-2723"/>
```

```
        <MeasurementUnit v="MAW"/>
        <Period>
              <TimeInterval v="2003-12-01T23:00Z/2003-12-02T23:00Z"/>
              <Resolution v="PT15M"/>
              <Interval>
                    <Pos v="01"/>
                    <Qty v="15.000"/>
              </Interval>
              <Interval>
                    <Pos v="02"/>
                    <Qty v="15.000"/>
              </Interval>
              .
              .
              .
              .
              <Interval>
                    <Pos v="95"/>
                    <Qty v="15.000"/>
              </Interval>
              <Interval>
                    <Pos v="96"/>
                    <Qty v="15.000"/>
              </Interval>
        </Period>
  </ScheduleTimeSeries>
  <ScheduleTimeSeries>
        <SendersTimeSeriesIdentification v="TS0002"/>
        <SendersTimeSeriesVersion v="1"/>
        <BusinessType v="A03"/>
        <Product v="8716867000016"/>
        <ObjectAggregation v="A01"/>
        <InArea v="10YAT-APG------L" codingScheme="A01"/>
        <OutArea v="10YCZ-CEPS-----N" codingScheme="A01"/>
        <InParty v="13XBILANZGRUPPE4" codingScheme="A01"/>
        <OutParty v="PL-TRADE" codingScheme="NAT"/>
        <CapacityContractType v= "A01"/>
        <CapacityAgreementIdentification v= "CEPS-APG-D-14356"/>
        <MeasurementUnit v="MAW"/>
        <Period>
              <TimeInterval v="2003-12-01T23:00Z/2003-12-02T23:00Z"/>
              <Resolution v="PT15M"/>
              <Interval>
                    <Pos v="01"/>
                    <Qty v="5.000"/>
              </Interval>
              <Interval>
                    <Pos v="02"/>
                    <Qty v="5.000"/>
              </Interval>
              .
              .
              .
              .
              <Interval>
                    <Pos v="95"/>
                    <Qty v="5.000"/>
              </Interval>
              <Interval>
```

```
                        <Pos v="96"/>
                        <Qty v="5.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
</ScheduleMessage>
```

Example 3: Availability schedule message – reporting non-availability

The below example shows version 1 of a PAS file of 1 August 2014 that indicates non-availability of generating unit “Erzeugungsblock 1” on 1 January 2015. The unit has a rated capacity of 150 MW.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE ScheduleMessage SYSTEM "../scheduleV2r3/dtd/schedule-xml.dtd">
<ScheduleMessage DtdVersion="2" DtdRelease="3">
      <MessageIdentification v="PAS_001"/>
      <MessageVersion v="1"/>
      <MessageType v="A01"/>
      <ProcessType v="A01"/>
      <ScheduleClassificationType v="A01"/>
      <SenderIdentification v="13XVERBUND1234-P" codingScheme="A01"/>
      <SenderRole v="A06"/>
      <ReceiverIdentification v="10XAT-APG------Z" codingScheme="A01"/>
      <ReceiverRole v="A04"/>
      <MessageDateTime v="2014-07-31T12:00:00Z"/>
      <ScheduleTimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Vorlaufzeit_Erz_Block_1"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A70"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000ERZEBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="HOU"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="99999.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="99999.000"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="99999.000"/>
                  </Interval>
                  <Interval>
```

```
                        <Pos v="24"/>
                        <Qty v="99999.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Revidiert_Erz_Block_1"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A53"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000ERZEBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="150.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="150.000"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="150.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="150.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Obergrenze_Erz_Block_1"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A61"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000ERZEBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="0.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="0.000"/>
                  </Interval>
                  .
```

```
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="0.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="0.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Untergrenze_Erz_Block_1"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A60"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000ERZEBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="0.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="0.000"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="0.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="0.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
</ScheduleMessage>
```

Example 4: Availability schedule message – annual generation forecast of a generation and a pumping unit

The below example shows version 1 of a balance group's availability schedule of 1 August 2014 for generating unit "Erzeugungsblock 1" and pumping unit "Pumpblock 1", both with a one-hour lead time, for 1 January 2015.

Though generating unit "Erzeugungsblock 1" has a rated capacity of 400 MW, there are tech-

nical restrictions, which is why the annual forecast indicates a maximum capacity of 380 MW.

Pumping unit “Pumpblock 1” has a rated capacity of 100 MW and the annual forecast indicates no restrictions.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE ScheduleMessage SYSTEM "../scheduleV2r3/dtd/schedule-xml.dtd">
<ScheduleMessage DtdVersion="2" DtdRelease="3">
      <MessageIdentification v="PAS_001"/>
      <MessageVersion v="1"/>
      <MessageType v="A01"/>
      <ProcessType v="A01"/>
      <ScheduleClassificationType v="A01"/>
      <SenderIdentification v="13XVERBUND1234-P" codingScheme="A01"/>
      <SenderRole v="A06"/>
      <ReceiverIdentification v="10XAT-APG------Z" codingScheme="A01"/>
      <ReceiverRole v="A04"/>
      <MessageDateTime v="2014-07-31T12:00:00Z"/>
      <ScheduleTimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Vorlaufzeit_Erz_Block_1"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A70"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000ERZEBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="HOU"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="1.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="1.000"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="1.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="1.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Revidiert_Erz_Block_1"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A53"/>
```

```
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000ERZEBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="0.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="0.000"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="0.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="0.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Obergrenze_Erz_Block_1"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A61"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000ERZEBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="380.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="380.000"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="380.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="380.000"/>
```

```
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Untergrenze_Erz_Block_1"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A60"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000ERZEBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="0.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="0.000"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="0.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="0.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Vorlaufzeit_Pump_Block_1"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A70"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000PUMPBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="HOU"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="1.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="1.000"/>
                  </Interval>
                  .
                  .
                  .
```

```
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="1.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="1.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Revidiert_Pump_Block_1"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A53"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000PUMPBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="0.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="0.000"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="0.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="0.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Obergrenze_Pump_Block_1"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A61"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000PUMPBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="100.000"/>
                  </Interval>
```

```
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="100.000"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="100.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="100.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Untergrenze_Pump_Block_1"/>
            <SendersTimeSeriesVersion v="1"/>
            <BusinessType v="A60"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000PUMPBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="0.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="0.000"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="0.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="0.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
</ScheduleMessage>
```

Example 5: (builds on example 4)

Availability schedule message – weekly forecast of the generation and a pumping unit with additional restrictions

The weekly forecast contains further restrictions for generating unit “Erzeugungsblock 1”: the

maximum capacity is reduced by 50 MW (which are kept available as positive secondary control) and the minimum capacity is increased by 100 MW (which are kept available as negative tertiary control).

Similarly, there are further technical restrictions for pumping unit “Pumpblock 1”: the minimum capacity is increased by 50 MW (which are kept available as positive secondary control) and the maximum capacity is reduced by 20 MW (which are kept available as negative tertiary control).

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE ScheduleMessage SYSTEM "../scheduleV2r3/dtd/schedule-xml.dtd">
<ScheduleMessage DtdVersion="2" DtdRelease="3">
      <MessageIdentification v="PAS_001"/>
      <MessageVersion v="2"/>
      <MessageType v="A01"/>
      <ProcessType v="A01"/>
      <ScheduleClassificationType v="A01"/>
      <SenderIdentification v="13XVERBUND1234-P" codingScheme="A01"/>
      <SenderRole v="A06"/>
      <ReceiverIdentification v="10XAT-APG------Z" codingScheme="A01"/>
      <ReceiverRole v="A04"/>
      <MessageDateTime v="2014-12-25T07:00:00Z"/>
      <ScheduleTimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Vorlaufzeit_Erz_Block_1"/>
            <SendersTimeSeriesVersion v="2"/>
            <BusinessType v="A70"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000ERZEBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="HOU"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="1.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="1.000"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="1.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="1.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
```

```
            <SendersTimeSeriesIdentification v="Revidiert_Erz_Block_1"/>
            <SendersTimeSeriesVersion v="2"/>
            <BusinessType v="A53"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000ERZEBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="0.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="0.000"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="0.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="0.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Obergrenze_Erz_Block_1"/>
            <SendersTimeSeriesVersion v="2"/>
            <BusinessType v="A61"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000ERZEBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="330.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="330.000"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="330.000"/>
                  </Interval>
```

```
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="330.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Untergrenze_Erz_Block_1"/>
            <SendersTimeSeriesVersion v="2"/>
            <BusinessType v="A60"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000ERZEBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="100.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="100.000"/>
                  </Interval>
                  .
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="100.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="100.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Vorlaufzeit_Pump_Block_1"/>
            <SendersTimeSeriesVersion v="2"/>
            <BusinessType v="A70"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000PUMPBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="HOU"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="1.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="02"/>
                        <Qty v="1.000"/>
                  </Interval>
```

```
                  .
                  .
                  .
                  <Interval>
                        <Pos v="23"/>
                        <Qty v="1.000"/>
                  </Interval>
                  <Interval>
                        <Pos v="24"/>
                        <Qty v="1.000"/>
                  </Interval>
            </Period>
      </ScheduleTimeSeries>
      <ScheduleTimeSeries>
            <SendersTimeSeriesIdentification v="Revidiert_Pump_Block_1"/>
            <SendersTimeSeriesVersion v="2"/>
            <BusinessType v="A53"/>
            <Product v="8716867000016"/>
            <ObjectAggregation v="A02"/>
            <MeteringPointIdentification
v="AT00000000000PUMPBLOCK0010000000V" codingScheme= "NAT" />
            <MeasurementUnit v="MAW"/>
            <Period>
                  <TimeInterval v="2014-12-31T23:00Z/2015-01-01T23:00Z"/>
                  <Resolution v="PT60M"/>
                  <Interval>
                        <Pos v="01"/>
                        <Qty v="0.000"/>
                  </Interval>
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                        <Pos v="02"/>
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