

# Policy 2 — Scheduling and Accounting

## *Policy Subsections*

---

- A. Scheduling
  - B. Online Observation
  - C. Accounting
- 

## *Introduction*

To operate a large power system like the one of UCTE and to create the suitable conditions for a free commercial electricity trade it is necessary to control the power exchanged at the interconnection border by means of the SECONDARY CONTROL installed in each CONTROL AREA. Invariably SECONDARY CONTROL produces inadvertent deviations in the energy exchanges. For this reason it is necessary: to share out the SECONDARY CONTROL among the partners, to observe in real-time the inadvertent deviations and to co-ordinate the accounting and the computation of the COMPENSATION PROGRAMS to balance the inadvertent deviations.

## *History of changes*

---

V1.2	draft	04.10.02	WG Op&Sec	comments and changes of WG
V1.1	draft	23.09.02	WG Op&Sec	comments and changes of WG

---

## *Current status*

This policy will cancel and replace all previous UCTE ground rules and recommendations regarding the co-ordination of the accounting and the organisation of the load-frequency control (1999) as well as the recording and offsetting of unintentional deviations in the interconnected network of UCPTE (1988).

The following UCPTE rules and recommendations are not used any longer:

- UCPTE Ground Rule: Co-ordination of the accounting and organisation of the load-frequency control, 1999
- UCPTE Recommendation: Recording and offsetting of unintentional deviations in the interconnected network of UCPTE, AR 1988
- UCPTE Recommendation: General principles concerning the recording and offsetting of unintentional deviations in the interconnected network of UCPTE, AR 1973-1974
- UCPTE Recommendation: Automatic programmed value setters, AR 1960-1961

## A. Scheduling of Power Exchange

---

[UCTE Rule Co-ordination of the accounting and organisation of LFC]

[ETSO ESS Implementation guide Release 1]

[ETSO Guideline for FTP Data Exchange]

[Appendix A0 – C: Sample appendix (in a separate document, not included)]

### Introduction

During the scheduling phase, on the day D-1, each CONTROL AREA must prepare the EXCHANGE PROGRAMS per time unit<sup>1</sup>, on the basis of the verification<sup>2</sup> with other partners, taking into consideration all types of energy exchanges across the area border.

The EXCHANGE PROGRAMS per time unit, for each specific CONTROL BLOCK, results from the algebraic sum of the EXCHANGE PROGRAMS of the CONTROL AREAS belonging to the CONTROL BLOCK. This sum is an integer figure with three decimal digits in MW.

The preparation of the EXCHANGE PROGRAMS of the CONTROL BLOCKS must be performed or co-ordinated by the CONTROL BLOCK co-ordinators.

### Criteria

- C1. Scheduled energy exchange *ES*.** The scheduled energy exchange *ES* is calculated without consideration of COMPENSATION PROGRAMS. The exchange schedule on a border between two CONTROL AREAS submitted to the co-ordination centres must have the same value.
- C2. Sum of the control programs.** The sum of the control programs of all CONTROL BLOCKS must be at any time equal to zero.

### Requirements

- R1. Framework for Balance Settlement performance.** For Balance Settlement a common model is needed as a basis for electronic exchange of schedules. This model consists out of
  - 1) The UCTE organisation with CO-ORDINATION CENTRES (CC), CONTROL BLOCKS (CB), CONTROL AREAS (CA) and
  - 2) Some artificial constructs in order to perform schedule exchange for compensation of unintentional deviations.

For the geographical areas as well as for the fictive constructs a common naming is used.

- R1.1.** For geographical areas the following names are to be used

- R1.1.1. On Co-ordination Centre level**

- NO\_CC for the Co-ordination Centre North
- SO\_CC for the Co-ordination Centre South

- R1.1.2. On Control Block level**

- A\_CB for CB Austria
- B\_CB for Belgium
- CH\_CB for Switzerland
- CNT\_CB for Central
- D\_CB for Germany
- FEP\_CB for France/Spain/Portugal
- I\_CB for Italy
- NL\_CB for Netherlands

---

1 see R2

2 Verification is the bilateral based procedure of checking the results of one data transcription against the results of another data transcription.

- SH\_CB for Slovenia/Croatia/Bosnia

**R1.2.** For settlement of compensation of unintentional deviations fictive CONTROL BLOCKS on CC level as well as fictive CONTROL AREAS on CB level are needed. Therefore the following names are to be used

**R1.2.1. On Co-ordination Centre level for fictive Control Blocks**

- NO\_COMP in the Co-ordination Centre North and
- SO\_COMP in the Co-ordination Centre South needed.

**R1.2.2. On Control Block level for fictive Control Areas**

- A\_COMP for CB Austria
- B\_COMP for Belgium
- CH\_COMP for Switzerland
- CNT\_COMP for Centrel
- D\_COMP for Germany
- FEP\_COMP for France/Spain/Portugal
- I\_COMP for Italy
- NL\_COMP for Netherlands
- SH\_COMP for Slovenia/Croatia/Bosnia

**R2. Data exchange among partners.**

- R2.1.** Electronic data exchange is required.
- R2.2.** The data exchange format has to be agreed bilaterally.
- R2.3.** The identification scheme for market actors has to be agreed bilaterally.
- R2.4. Standardisation.** It is necessary to standardise the data exchange formats within a CONTROL BLOCK, within a co-ordination centre and between the co-ordination centres.
- R2.5.** Data link with neighbouring partners and the corresponding CONTROL BLOCK operator / co-ordination centre: electronic highway, ftp-dial in via ISDN-line, phone, e-mail, fax (as back-up if electronic communication is disturbed).

**R3. Time Frame.**

- R3.1.** The minimum time frame for the exchange schedules is defined as  $t = \frac{1}{4}h$
- R3.2.** The parties are free to choose the individual time frame  $t_i$  as a multiple of  $t$ , with a maximum value of 1h (i.e.  $t_i = \frac{1}{4}h, \frac{1}{2}h$  or 1h)
- R3.3.** With regard to exchange schedules the parties have to **arrange bilaterally** with their neighbours. As a general rule, two neighbouring parties have to choose the larger  $t_i$  for their bilateral exchange schedules.

**R4. Resolution.** The resolution for the exchange schedules is MW with 3 decimal digits.

**R5. Availability.** The function of a scheduling office should be available every days 00:00. - 24:00. Outside the office periods (working days, 8:00 – 16:00) this function is usually overtaken by the shift personnel of the system operator.

**R6. Definition of Intra day.** Since a CONTROL BLOCK exchange has to be approved latest X hours before setting a schedule into force, the time frame for registration of Intra day schedules by the CONTROL AREA operator towards their corresponding CONTROL BLOCK operators is from hh:mm of the D-1 to hh:mm of D.

## **Standards**

### **S1. Day ahead verification of exchange programs between control areas (D for D+1).**

- S1.1. Control area verification.** The CONTROL AREA operators have to agree with the neighbouring CONTROL AREA operators the total bilateral exchange per border for every time unit.
- S1.2. Start exchange of schedules.** Exchange of CAX / CAS schedules, at least CAX – for higher reliability CAS, between CONTROL AREAS latest at hh:mm
- S1.3. Control area verification closure.**  
The CONTROL AREA verification has to be completed by the CONTROL AREA OPERATORS latest until (D), hh:mm.

### **S2. Day ahead control block verification (D for D+1).**

- S2.1. Data exchange control area – control block.**  
Every working day (D) the CONTROL AREA operators have to submit until hh:mm the following day's (D+1) agreed exchange schedules concerning their borders to their corresponding CONTROL BLOCK operator; before weekend / public holidays data for additional days have to be made available accordingly.
- S2.2. Detail of exchange data.** For each time unit the CONTROL AREA operator has to submit at least the bilateral sum of exchange schedules per CONTROL AREA border (CAX) to the CONTROL BLOCK operator.
- S2.3. Control block validation.** The CONTROL BLOCK operator has to validate the scheduling data received from the CONTROL AREAS.
- S2.4. Control block verification.** The CONTROL BLOCK operator has to calculate the total bilateral exchange schedule per border and agree with the neighbouring CONTROL BLOCK operators the total bilateral exchange schedule per border for every time unit.
- S2.5. Control block verification closure.**  
The CONTROL BLOCK verification has to be completed by the CONTROL BLOCK operator latest until (D), hh:mm.

### **S3. Day ahead co-ordination centre verification (D for D+1).**

- S3.1. Data exchange control block – co-ordination centre.**  
Every working day (D) the CONTROL BLOCK operators have to submit until hh:mm the following day's (D+1) agreed exchange schedules concerning their borders to their corresponding co-ordination centre; before weekend / public holidays data for additional days have to be made available accordingly.
- S3.2. Detail of exchange data.** For each time unit the CONTROL BLOCK operator has to submit at least the bilateral sum of exchange schedules per CONTROL BLOCK border (CBX) to the co-ordination centre.
- S3.3. Co-ordination centre validation.** The co-ordination centre has to validate the scheduling data received from the CONTROL BLOCKS.
- S3.4. Co-ordination centre verification.** The co-ordination centre has to calculate the total bilateral exchange schedule per border and verify with the neighbouring co-ordination centre the total bilateral exchange schedule per border for every time unit.
- S3.5. Co-ordination centre verification closure.** The co-ordination centre verification has to be completed by the co-ordination centres latest until (D), hh:mm.

- S4. Intra - day control area verification (during D).**
- S4.1. Control area verification.** The CONTROL AREA operators have to verify with the neighbouring CONTROL AREA operators the valid total bilateral exchange schedules per border for every time unit.
- S4.2. Control area verification closure.**  
The CONTROL AREA verification has to be completed by the CONTROL AREA operators latest until X hours before setting a schedule into force.
- S5. Intra - day control block verification (during D).**
- S5.1. Data exchange control area – control block.** In case of intra – day changes of the exchange schedules the CONTROL AREA operators have to submit at least X hours before setting a schedule into force the agreed valid exchange schedules concerning their borders to their corresponding CONTROL BLOCK operator.
- S5.2. Detail of exchange data.** For each time unit the CONTROL AREA operator has to submit at least the bilateral sum of exchange schedules per CONTROL AREA border (CAX) to the CONTROL BLOCK operator.
- S5.3. Control block validation.** The CONTROL BLOCK operator has to validate the scheduling data received from the CONTROL AREAS. Schedules having any changes in a not allowed time unit will be rejected.
- S5.4. Control block verification.** The CONTROL BLOCK operator has to calculate the total bilateral exchange schedule per border and verify the total bilateral exchange schedule per border for every time unit with the neighbouring CONTROL BLOCK operators
- S5.5. Control block verification closure.** The CONTROL BLOCK verification has to be completed by the CONTROL BLOCK operator latest until X hour before setting a schedule into force.
- S6. Intra - day co-ordination centre verification (during D).**
- S6.1. Data exchange control block – co-ordination centre.** In case of intra – day changes of the exchange schedules the CONTROL BLOCK operators have to submit at least X hours before setting a schedule into force the agreed valid exchange schedules concerning their borders to their corresponding co-ordination centre.
- S6.2. Detail of exchange data.** For each time unit the CONTROL BLOCK operator has to submit at least the bilateral sum of exchange schedules per CONTROL BLOCK border (CBX) to the co-ordination centre.
- S6.3. Co-ordination centre validation.** The co-ordination centre has to validate the scheduling data received from the CONTROL BLOCKS. Schedules who have any changes in a not allowed time unit (e.g. one out of the past) will be rejected.
- S6.4. Co-ordination centre verification.** The co-ordination centre has to calculate the total bilateral exchange schedule per border and verify the total bilateral exchange schedule per border for every time unit. with the neighbouring co-ordination centre
- S6.5. Co-ordination centre verification closure.** The co-ordination centre verification has to be completed by the co-ordination centres latest until X hours before setting a schedule into force.
- S7. Confirmation of verified exchange schedules.**
- S7.1. Co-ordination centre verification.** After completion of the co-ordination centre verification the co-ordination centres confirms the agreed exchange schedules to the CONTROL BLOCK operators by a confirmation report.
- S7.2. Control block verification.** After the receipt of the co-ordination centre confirmation the completion of the CONTROL BLOCK verification is confirmed by the CONTROL BLOCK operators to the CONTROL AREA operators by a confirmation report.

- S8. Transparency.** The exchange schedules between CONTROL BLOCKS will be published on a common information system.
- S9. Confidentiality.** The data used for the scheduling may not be transmitted to third parties without authorisation.

### **Guidelines**

- G1. Nomination.** It is recommended to use the principle of 1 : 1 nomination for border – crossing exchange schedules
- G2. Electronic Highway.** For the data exchange the “Electronic Highway” should be used
- G3. Data exchange format.**
- G3.1.** For the data exchange the ETSO ESS should be used
  - G3.2.** For the identification of market participants the EIC standard is recommended
- G4. Schedule registration towards control area by balance responsible parties<sup>3</sup> (BRP).** It is recommended to register the BRP schedules until 14:30 of D-1 towards the CONTROL AREA. The CONTROL AREA responsible party verifies the correctness of the schedules and informs the involved parties as soon as possible (acknowledgement-, anomaly-, confirmation report).
- G5. Gate closure for schedule verification between BRPs.** It is recommended to introduce the destination schedule by the control area operator if the BRPs did not agree on a schedule until hh:mm of D-1.
- G6. Detail of data exchange between partners.**
- G6.1. Exchange data sent by the control area operator.** It is recommended, that for each time unit the CONTROL AREA operator submits the single exchange schedules per BRP (CAS).
  - G6.2. Exchange data sent by the control block operator.** It is recommended, that for each time unit the CONTROL BLOCK operator submits the single exchange schedules per CONTROL AREA border (CBS).
  - G6.3. Exchange data sent by the co-ordination centre.** It is recommended, that for each time unit the co-ordination centre submits the single exchange schedules per CONTROL BLOCK border (CCS).

### **Procedures**

- P1. Control area verification** (see S1.1 and S4.1).
- P1.1. Verification routines.**
    - P1.1.1.** The verification routines are performed by the CONTROL AREA operator together with the neighbouring CONTROL AREAS in order to ensure clear scheduling data.
    - P1.1.2.** The CONTROL AREA operators verify per time unit if the exchange schedule per border is equal for both CONTROL AREA operators. The verification reliability depends on the exchanged data type CAX or CAS. If an error results from the verification routines, troubleshooting is applied between the CONTROL AREA operators concerned.
  - P1.2. Troubleshooting.**

---

<sup>3</sup> balance responsible party (BRP) e.g. trade responsible, production responsible, consumption responsible party.

- P1.2.1.** If the first verification (P1.1.2) is based on CAX , then the CONTROL AREA exchange per BRP (CAS) is necessary.
- P1.2.2.** Identification of faulty time unit.
- P1.2.3.** Identification of the faulty individual border crossing BRP schedule and agree on a corrected common value.
- P1.3. Fault correction.** Inform the corresponding BRP accordingly.
- P2. Control block validation** (see S3.3 and S5.3).
- P2.1. Checking routines.**
- P2.1.1.** The checking routines are performed by the CONTROL BLOCK operator himself in order to ensure the validity of the complete data set concerning the CONTROL BLOCK.
- P2.1.2.** The CONTROL BLOCK operator validates if the data related to the internal borders of the underlying CONTROL AREAS sum up to zero. If the checking routines fail, troubleshooting is applied.
- P2.2. Troubleshooting**
- P2.2.1.** Identification of the bilateral border (s) between CONTROL AREAS where the fault applies.
- P2.2.2.** Identification of the faulty time unit.
- P2.2.3.** If the CONTROL AREA exchange per BRP (CAS) are available: identify the faulty individual border crossing BRP schedule; otherwise **STEP P1.2.**
- P2.3. Fault correction.** Ask the corresponding CONTROL AREA operators to agree on a corrected common value with the respective BRP.
- P3. Control block verification** (see S2.4 and S5.4).
- P3.1. Verification routines.**
- P3.1.1.** The verification routines are performed by the CONTROL BLOCK operator together with the neighbouring CONTROL BLOCKS in order to ensure clear scheduling data.
- P3.1.2.** The CONTROL BLOCK operators verify per time unit if the total exchange schedule per border is equal for both CONTROL BLOCK operators. If the verification routines fail, troubleshooting is applied between the CONTROL BLOCK operators concerned.
- P3.2. Troubleshooting.**
- P3.2.1.** Exchange the CONTROL BLOCK exchange per control area (CBS).
- P3.2.2.** Identification of the faulty time unit.
- P3.2.3.** Identification of the faulty CONTROL AREA border.
- P3.2.4.** If the control area exchange per BRP (CAS) are available: identify the faulty individual border crossing BRP schedule; otherwise **STEP P1.2.**
- P3.3. Fault correction.** Ask the corresponding CONTROL AREA operators to agree on a corrected common value with the respective BRP.
- P4. Co-ordination centre validation** (see S3.3 and S6.3).
- P4.1. Checking routines.**
- P4.1.1.** The checking routines are performed by the co-ordination centre itself in order to ensure the validity of the complete data set concerning the co-ordination centre.

- P4.1.2.** The co-ordination centre validates if the data related to the internal borders of the underlying CONTROL BLOCKS sum up to zero. If the checking routines fail, troubleshooting is applied.
- P4.2. Troubleshooting**
- P4.2.1.** Identify the bilateral border (s) between CONTROL BLOCKS where the fault applies.
- P4.2.2.** Identify the faulty time unit.
- P4.2.3.** If the CONTROL AREA exchange per CONTROL AREA available: identify the faulty individual CONTROL AREA border; otherwise **STEP P3.2.**
- P4.3. Fault correction.** Ask the corresponding CONTROL BLOCK operators to clear the fault.
- P5. Co-ordination centre verification** (see S3.4 and S6.4).
- P5.1. Verification routines.**
- P5.1.1.** The verification routines are performed by the co-ordination centre together with the neighbouring co-ordination centre in order to ensure clear scheduling data.
- P5.1.2.** The co-ordination centres verify per time unit if the total exchange schedule per border is equal for both co-ordination centres. If the verification routines fail, troubleshooting is applied between the co-ordination centres concerned.
- P5.2. Troubleshooting.**
- P5.2.1.** Exchange the co-ordination centre exchange per CONTROL BLOCK (CCS).
- P5.2.2.** Identification of the faulty time unit.
- P5.2.3.** Identification of the faulty CONTROL BLOCK border.
- P5.2.4.** If the control area exchange per control area available: identify the faulty individual CONTROL AREA border; otherwise **STEP P3.2.**
- P5.3. Fault correction.** Ask the corresponding CONTROL AREA operators to clear the fault.

## **Measures**

### **M1. Data exchange.**

#### **M1.1. Day ahead (D for D+1)**

**M1.1.1. Control area.** If the CONTROL AREA operator (s) does (do) not submit the data to the CONTROL BLOCK operator in time (see S2.1), the CONTROL BLOCK operator sets these data to zero and informs the CONTROL AREA operator accordingly. The CONTROL AREA operator has to arrange the setting with the market participants.

**M1.1.2. Control block.** If the CONTROL BLOCK operator (s) does (do) not submit the data to the co-ordination centre in time (see S3.1), the co-ordination centre sets these data to zero and informs the CONTROL BLOCK operator accordingly. The CONTROL BLOCK operator informs the CONTROL AREA operator and the CONTROL AREA operator has to arrange the setting with the market participants.

#### **M1.2. Intra - day (during D)**

**M1.2.1. Control area.** If the CONTROL AREA operator (s) does (do) not submit the data to the CONTROL BLOCK operator in time (see S5.1), the CONTROL BLOCK operator sets the data previously agreed valid and informs the control area

operator accordingly. The CONTROL AREA operator has to arrange the setting with the market participants.

**M1.2.2. Control block.** If the CONTROL BLOCK operator (s) does (do) not submit the data to the co-ordination centre in time (see S6.1), the co-ordination centre sets the data previously agreed valid and informs the CONTROL BLOCK operator accordingly. The CONTROL BLOCK operator informs the CONTROL AREA operator and the CONTROL AREA operator has to arrange the setting with the market participants.

## **M2. Data validation.**

### **M2.1. Day ahead (D for D+1)**

**M2.1.1. Control block.** If the CONTROL BLOCK operator is not able to validate the scheduling data with the CONTROL AREAS concerned in time (see S2.3) the CONTROL BLOCK operator decides which CONTROL AREA data are relevant for the scheduling and informs the CONTROL AREA operator accordingly. The CONTROL AREA operator has to arrange the setting with the market participants.

**M2.1.2. Co-ordination centre.** If the co-ordination centre is not able to validate the scheduling data with the CONTROL BLOCKS concerned in time (see S3.3) the co-ordination centre decides which CONTROL BLOCK data are relevant for the scheduling and informs the CONTROL BLOCK operator accordingly. The CONTROL BLOCK operator informs the CONTROL AREA operator and the CONTROL AREA operator has to arrange the setting with the market participants.

### **M2.2. Intra - day (during D)**

**M2.2.1. Control block.** If the CONTROL BLOCK operator is not able to validate the scheduling data with the CONTROL AREAS concerned in time (see S5.3) the CONTROL BLOCK operator decides which CONTROL AREA data are relevant for the scheduling and informs the CONTROL AREA operator accordingly. The CONTROL AREA operator has to arrange the setting with the market participants.

**M2.2.2. Co-ordination centre.** If the co-ordination centre is not able to validate the scheduling data with the CONTROL BLOCKS concerned in time (see S6.3) the co-ordination centre decides which CONTROL BLOCK data are relevant for the scheduling and informs the CONTROL BLOCK operator accordingly. The CONTROL BLOCK operator informs the CONTROL AREA operator and the CONTROL AREA operator has to arrange the setting with the market participants.

## **M3. Verification.**

**M3.1. Control area.** If the CONTROL AREA operator is not able to verify with a neighbouring CONTROL AREA on the total exchange schedule per border in time (see S1.2 and S4.2) he should seek guidance from the CONTROL BLOCK operators. Follow STEP M2.1.1 / M2.2.1.

**M3.2. Control block.** If the CONTROL BLOCK operator is not able to verify with a neighbouring CONTROL BLOCK on the total exchange schedule per border in time (see S2.4 and S5.4) he should seek guidance from the co-ordination centre (s). Follow STEP M2.1.1 / M2.2.1.

**M3.3. Co-ordination centre.** If the co-ordination centre is not able to verify with a neighbouring co-ordination centre on the total exchange schedule per border in time (see S3.4 and S6.4) the two co-ordination centres decide commonly which data are relevant for the scheduling and inform the CONTROL BLOCK operator accordingly. The

CONTROL BLOCK operator informs the CONTROL AREA operator and the CONTROL AREA operator has to arrange the setting with the market participants.

Preliminary

## B. Online Observation

---

*[Appendix : Sample appendix (in a separate document)]*

### **Introduction**

The real-time observation of exchange power flows and the checking procedures along various border lines are all activities carried out for the purpose of early detection of any possible error in the scheduling and measurement processes. In this way it is possible to take early actions so that no major problem arises in the load-frequency control and in the accounting of the unintentional deviations. This task is performed in an autonomous and independent way by each CONTROL BLOCK.

A second level is present through the real-time observation of the unintentional deviations across previously defined observation lines. This function allows to improve detecting, as early as possible, any error concerning telemeasurements (TMs) for the load-frequency control, any misunderstanding which may occur in setting the exchange programs, etc., in order to implement without delay the appropriate corrective actions. This function may be performed in one or more locations which must then work in a close co-operation.

### **Criteria**

- C1. Sum of the control programs.** The sum of the control programs of all CONTROL BLOCKS must be at any time equal to zero.
- C2. Sum of the power measurements.** The sum of the measurements of the power flows on the observation lines must be equal to zero (considering the range of accuracy of the measurement).
- C3. Sum of the power deviations.** The power deviation is the difference between the scheduled exchange (including compensation program) and measured physical exchange. The sum of the power deviations on the observation lines must be equal to zero (considering the range of accuracy of the measurement).

### **Requirements**

- R1. Accuracy of power measurements.** The accuracy of the active power measurement on the observation line must be better than 3 % of the maximum scheduled value. The sampling rate of the measurements must be not lower than 5 s.
- R2. Transmission of measurements.**
  - R2.1.** The measurements of the tie-line power flows must be transmitted on a reliable manner to the corresponding operator of a CONTROL BLOCK by each control area (with an alarm in case of deficiency of a data transmission). The transmission delay must be less than 2 sec.
  - R2.2.** The measurements of the tie-line power flows must be transmitted on a reliable manner to the corresponding co-ordination centre by each CONTROL BLOCK (with an alarm in case of deficiency of a data transmission). The transmission delay must be less than 2 sec.
- R3. Transmission of power deviations.**
  - R3.1.** The measurements of the power deviations of the control areas must be transmitted on a reliable manner to the corresponding operator of the CONTROL BLOCK by each CONTROL AREA (with an alarm in case of deficiency of a data transmission). The transmission delay must be less than 2 sec.
  - R3.2.** The measurements of the power deviations of the CONTROL BLOCKS must be transmitted on a reliable manner to the corresponding co-ordination centre by each

CONTROL BLOCK (with an alarm in case of deficiency of a data transmission). The transmission delay must be less than 2 sec.

- R4. Time reference.** The measurements must be synchronised with an official time reference system (e.g. GPS system).

## **Standards**

### **S1. Modification of Exchange Schedule.**

- S1.1.** In case of a change of the hourly EXCHANGE PROGRAM scheduled with another neighbouring CONTROL AREA. The operator of the relevant CONTROL AREA has to transmit immediately the information to the corresponding operator of the CONTROL BLOCK (reference to intra day scheduling process).
- S1.2.** In case of a change of the hourly EXCHANGE PROGRAM scheduled with another neighbouring CONTROL BLOCK. The operator of the relevant CONTROL BLOCK has to transmit immediately the information to the corresponding co-ordination centre, (reference to intra day scheduling process).

### **S2. Perturbation of measurement equipment.**

- S2.1.** The operator of the relevant control area has to inform the corresponding operator of the CONTROL BLOCK on any perturbation in the measurement equipment on the observation lines with other neighbouring control areas.
- S2.2.** The operator of the relevant CONTROL BLOCK has to inform the corresponding co-ordination centre on any perturbation in the measurement equipment on the observation lines with other neighbouring CONTROL BLOCKS.

### **S3. Action in case of discrepancies.**

- S3.1.** In case that the sum of the of power deviations of the CONTROL AREAS in a CONTROL BLOCK is not equal to the power deviation of the CONTROL BLOCK the operator of the relevant CONTROL BLOCK has to contact immediately the corresponding operators of the CONTROL AREAS in order to solve the problem.
- S3.2.** In case that the sum of the of power deviations on the observation lines is not equal to zero the co-ordination centre has to contact immediately the corresponding operator of the CONTROL BLOCKS in order to solve the problem.

## **Guidelines**

- G1. Single tie-line measurement.** With regard to the detection of failures, the availability of single tie-line TMs, across the different observation lines, allows an easier detection of possible abnormal TMs.
- G2. Real time transmission of control programs.** The responsible of each CONTROL BLOCK shall transmit in real time to the corresponding co-ordination centre the control program set on its load-frequency controller.
- G3. Acquisition of tie-line metering.** The operators of a CONTROL BLOCK shall acquire the metering data of the tie-lines to adjacent control blocks to record the energy in kWh in the time-frame for power exchanges that is used (one hour at the maximum).
- G4. Exchange of metering data.** The co-ordination centre shall be provided with total hourly scheduled exchange for each CONTROL BLOCK and real-time active power TMs of each tie-line<sup>4</sup> across observation lines.
- G5. Action in case of discrepancies:**

---

<sup>4</sup> Including virtual tie-lines that may exist for the operation of jointly owned power plants.

- G5.1.** In case that the sum of the CONTROL PROGRAMS of the CONTROL AREAS in a CONTROL BLOCK is not equal to CONTROL PROGRAM of the CONTROL BLOCK the operator of the relevant CONTROL BLOCK has to inform immediately on an automatic way the corresponding operator of the CONTROL AREAS.
- G5.2.** In case that the sum of the CONTROL PROGRAMS of the CONTROL BLOCKS is not equal to zero the co-ordination centre has to inform immediately on an automatic way the corresponding operators of the CONTROL BLOCKS.

### **Procedures**

- P1. Detection of abnormal operation.** The observation of unintentional deviations by the co-ordination centres allow to identify and to correct abnormal operating and accounting situations (e.g.: abnormal values on tie-line TMs, misunderstanding in setting the exchange schedule of a CONTROL BLOCK, etc.) as soon as possible.
- P1.1.** In case that the transmitted power deviation of a CONTROL AREAS is different than the calculated power deviation by the CONTROL BLOCK the operator of the relevant CONTROL BLOCK has to contact immediately the corresponding operators of the CONTROL AREAS in order to solve the problem.
- P1.2.** In case that the transmitted power deviation of a CONTROL BLOCK is different than the calculated power deviation by the co-ordination centre the operator of the relevant co-ordination centre to contact immediately the corresponding the operator of the relevant CONTROL BLOCK in order to solve the problem.
- P2. Communication among computers.** Presently, with the modern devices for communication among computers, it is possible to provide a data exchange network to assure the functions mentioned in this document.

### **Measures**

- M1.** *In the case that the discrepancies can not be solved, the operator of a control block or of a Co-ordination Centres has the right to take measures like modify exchange schedule.*

## C. Accounting of unintentional deviations

[UCTE Ground Rule 99 Co-ordination of the accounting and organisation of LFC]

[UCTE Recommendation 88 Recording and offsetting of unintentional deviations]

[Appendix A0 – C: Sample appendix (in a separate document)]

### Criteria

- C1. Scheduled energy exchange *ES*.** The scheduled energy exchange *ES* is calculated without consideration of COMPENSATION PROGRAMS. The exchange schedule on a border between two CONTROL AREAS submitted to the co-ordination centres must have the same value.
- C2. Physical energy exchange**
- C2.1. Types of physical energy exchange**
- C2.1.1. Tie-line Flows *ET*.** The sum of the tie line flows on a border between two control areas submitted to the accounting centres must have the same value.
- C2.1.2. Virtual Tie-line Flows *EVT*.** The sum of the virtual tie line flows between two control areas submitted to the accounting centres must have the same value.
- C3. Unintentional deviations.** Calculation of unintentional deviations:  $UD = ET - (ES + EVT)$ . The unintentional deviation on a border between two CONTROL AREAS calculated by the co-ordination centres must have the same value with opposite sign. The sum of all unintentional deviations of a synchronous zone must be equal to zero.
- C3.1. Maximal allowed unintentional deviation :** When the value of the unintentional deviation in one hour of a CONTROL AREA is higher than **XXX** MWh, the compensation will be treated separately by the co-ordination centres.
- C4. Compensation of unintentional deviations.**
- C4.1. Compensation Program.** The compensation of unintentional deviations is performed by exporting to / importing from the interconnected system during the compensation period by means of schedules of constant power within the same tariff periods as when they occurred (“compensation program” *COMP*). The sum of all the COMPENSATION PROGRAMS for each time unit of a synchronous zone must be equal to zero.

### Requirements

- R1. Time Basis.** The Central European Summer Time is used as time basis
- R2. Physical energy exchange**
- R2.1. Data.** The physical energy exchange is represented by electricity meter values per billing point and time unit. The time frame and the energy unit must be the same on a common border between two CONTROL AREAS.
- R2.2. Billing Point.** One side of a tie-line representing an interconnection point has to be declared as unique “*billing point*” – obligatory for all partners involved. The electricity meter values from the billing point should be used by all partners involved as unique representation of the physical energy exchange concerning the interconnection point.
- R3. Physical energy exchange – metering.**
- R3.1. Voltage and current transformer.** At each billing point voltage and current transformers have to be operated. The voltage and current transformers at the billing points should have an accuracy class rating of 0,2. Current transformers should have 2 cores for measurement purposes.

- R3.2. Electricity metering.** On the basis of the current and voltage values measured by the transformers the electricity meters determine the active energy flow in both directions related to a pre – defined time frame. The electricity meters at the billing points should have an accuracy class rating of 0,2.
- R3.3. Redundancy.** The billing points should be equipped with main and check meters at each tie-line. Main and check meter should be connected each to a separate core of the current transformer.
- R3.4. Transformer cables.** Due to the accuracy of the whole metering, voltage transformer cables should be designed the way that voltage drop is reduced to at 0,1% or less of the nominal voltage.
- R3.5. Telecounter.** The task of a telecounter is the acquisition of the meter values from the electricity meters at the billing point and the teletransmission of this data to the central accounting office of each partner concerned (remote meter reading). The telecounters at a billing point should be doubled. For the sake of uniqueness, the data flow from the electricity meters to the accounting offices has to be agreed unanimously between the partners sharing the billing point.
- R3.6. Availability.** Every working day (D) the past working day's (D-1) meter values have to be available at the accounting office until 08:00; after weekend / holidays data for additional days have to be made available accordingly
- R4. Data exchange among partners.**
- R4.1.** Electronic data exchange is required.
- R4.2.** The data exchange format has to be agreed bilaterally.
- R4.3. Standardisation.** It is necessary to standardise the data exchange formats within a CONTROL BLOCK, within a co-ordination centre and between the co-ordination centres.
- R4.4.** Data link with neighbouring partners and the corresponding CONTROL BLOCK operator / co-ordination centre: electronic highway, ftp-dial in via ISDN-line, phone, e-mail, fax as back-up if electronic communication is disturbed).
- R5. Time Frame.** The time frame for the accounting of unintentional deviations has to correspond with the time frame of the scheduled energy exchange (1h, ½ h, ¼ h); this time frame is valid for the figures *ET*, *EVT*, *UD* and *COMP*.
- R6. Resolution.** The resolution for the accounting of unintentional deviations is MWh with 3 decimal digits; this resolution is valid for the figures *ET*, *EVT*, *UD* and *COMP*.
- R7. Availability.** Accounting offices should be available on working days 08:00. - 16:00.

## Standards

- S1. Scheduled energy exchange *ES*.** The highest valid version of the data exchange sheets CAX / CBX (definition in the subsection Scheduling) is used by the co-ordination centres for accounting.
- S2. Physical energy exchange *ET / EVT*.**
- S2.1.** TSO's operating a common tie – line or virtual tie – line have to agree on unique meter values for every time unit.
- S2.2.** In case of problems concerning the metering or telecounting equipment the TSO's operating a common tie – line or virtual tie – line have to agree on unique substitute meter values for every time unit.
- S3. Work daily control area settlement (D for D-1).**
- S3.1. Data exchange control area – control block.** Every working day (D) the control area operators have to submit until 10:00. the past working day's (D-1) meter values of their tie – lines / virtual tie – lines to their corresponding CONTROL BLOCK operator; after weekend / holidays data for additional days have to be made available accordingly.
- S3.2. Detail of exchange data.** For each time unit the control area operator has to submit at least the bilateral sum of meter values per control area border to the CONTROL BLOCK operator.
- S3.3. Control area validation.** The CONTROL BLOCK operator has to validate the accounting data received from the CONTROL AREAS.
- S3.4. Control area settlement.** The CONTROL BLOCK operator has to calculate the single CONTROL AREA'S account of unintentional deviations for every tariff period for the day before (D-1), 24:00 and to submit the result to the CONTROL AREA operator concerned. The data has to be confirmed by the CONTROL AREA operator.
- S3.5. Control area settlement closure.** The CONTROL AREA validation and the CONTROL AREA settlement have to be completed latest until (D), 12:00.
- S4. Work daily control block settlement (D for D-1).**
- S4.1. Data exchange control block – co-ordination centre.** Every working day (D) the CONTROL BLOCK operators have to submit latest until 12:00 the past working day's (D-1) meter values of their tie – lines / virtual tie – lines to their corresponding co-ordination centre; after weekend / holidays additional data for additional days have to be made available accordingly
- S4.2. Detail of exchange data.** For each time unit the CONTROL BLOCK operator has to submit at least the bilateral sum of meter values per CONTROL BLOCK border to the co-ordination centre
- S4.3. Control block validation.** The co-ordination centre will validate the accounting data received from the CONTROL BLOCKS.
- S4.4. Control block settlement.** The co-ordination centre will calculate the single CONTROL BLOCK'S account of unintentional deviations for every tariff period for the day before (D-1), 24:00. and submit the result to the CONTROL BLOCK operator concerned. The data will be confirmed by the CONTROL BLOCK operator.
- S4.5. Control block settlement closure.** The CONTROL BLOCK validation and the CONTROL BLOCK settlement have to be completed latest until (D), 14:00.
- S5. Work daily co-ordination centre settlement (D for D-1).**

- S5.1. Co-ordination centre validation.** The co-ordination centres will calculate the sum of the CONTROL BLOCK'S account of unintentional deviations for every tariff period for the day before (D-1), 24:00 and validate the result vice - versa latest until (D), 15:00.
- S5.2. Confirmation of the work daily settlement.** The co-ordination centres will submit to the CONTROL BLOCK operators the account of unintentional deviations for every tariff period for the day before (D-1), 24:00 after the completion of the co-ordination centre validation.
- S6. Final control area settlement of a recording period.**
- S6.1. Data exchange control area – control block.** Corrections concerning the data exchanged during the work daily settlement are taken into account for the final CONTROL AREA settlement of a recording period if they are submitted from the CONTROL AREA operators to their corresponding CONTROL BLOCK operator two working days before the start of the compensation period latest until 10:00.
- S6.2. Control area validation.** The CONTROL BLOCK operator has to validate the accounting data received from the CONTROL AREAS.
- S6.3. Control area settlement.** The CONTROL BLOCK operator has to calculate the single CONTROL AREA'S final account of unintentional deviations for every tariff period for the last day of the recording period, 24:00 and the resulting COMPENSATION PROGRAMS of the recording period and to submit the result to the CONTROL AREA operator concerned; the data has to be confirmed by the CONTROL AREA operator.
- S6.4. Control area settlement closure.** The final control area validation and the final CONTROL AREA settlement have to be completed latest until two working days before the start of the compensation period, 12:00.
- S7. Final control block settlement of a recording period.**
- S7.1. Data exchange control block – co-ordination centre.** Corrections concerning the data exchanged during the work daily settlement are taken into account for the final CONTROL BLOCK settlement of a recording period if they are submitted from the CONTROL BLOCK operators to their corresponding co-ordination centre two working days before the start of the compensation period until 12:00 at the latest.
- S7.2. Control block validation.** The co-ordination centre has to validate the accounting data received from the CONTROL BLOCKS.
- S7.3. Control block settlement.** The co-ordination centre has to calculate the single CONTROL BLOCK'S final account of unintentional deviations for every tariff period for the last day of the recording period, 24:00 and the resulting COMPENSATION PROGRAMS of the recording period and to submit these results to the CONTROL BLOCK operator concerned; the data has to be confirmed by the CONTROL BLOCK operator.
- S7.4. Control block settlement closure.** The final CONTROL BLOCK validation and the final CONTROL BLOCK settlement have to be completed latest until two working days before the start of the compensation period, 14:00.
- S8. Final co-ordination centre settlement of a recording period.**
- S8.1. Co-ordination centre validation.** The co-ordination centres will calculate the sum of the CONTROL BLOCK'S final account of unintentional deviations for every tariff period for the last day of the recording period, 24:00 and validate the result vice - versa until two working days before the start of the compensation period, 15:00
- S9. Confirmation of the final settlement.**
- S9.1.** After the final co-ordination centre settlement of a recording period the co-ordination centres will confirm the CONTROL BLOCK operators the agreed COMPENSATION PROGRAMS

- S9.2.** After the confirmation of the co-ordination centres the CONTROL BLOCK operators have to confirm the CONTROL AREA operators the agreed COMPENSATION PROGRAMS accordingly.
- S10. Corrections of metering data.** Corrections of metering data have to be performed within 4 weeks after the day they correspond to.
- S11. Definition of the recording period.**
- S11.1.** The standard recording period is defined to comprise 7 days (one week), from Monday, 0:00 to Sunday 24:00.
- S11.2.** In case of bank holidays or the change of tariff seasons exceptions to this rule may occur. The co-ordination centres agree on exceptions to the definition of the recording period and inform the CONTROL BLOCK operators 4 weeks before the start of the recording period accordingly.
- S11.3.** A recording period should last at minimum 4 days.
- S12. Definition of the compensation period.**
- S12.1.** The standard compensation period is defined to comprise 7 days (one week), from Thursday, 0:00 to Wednesday 24:00, the standard compensation period starts with a delay of three days off the end of the corresponding recording period.
- S12.2.** In case of holidays or the change of tariff seasons exceptions to this rule may occur. The co-ordination centres agree on exceptions to the definition of the compensation period and inform the CONTROL BLOCK operators 4 weeks before the start of the corresponding recording period accordingly.
- S12.3.** A compensation period should last at minimum 4 days.
- S12.4.** A compensation period has to start always with a delay of three working days off the end of the corresponding recording period.
- S13. Transparency.** The exchange schedule and the physical exchange between CONTROL BLOCKS will be published on a common information system.
- S14. Confidentiality.** The data used for the accounting may not be transmitted to third parties without authorisation..

## **Guidelines**

- G1. Physical energy exchange *ET / EVT*.** TSO's operating a common tie – line or virtual tie – line should read the same agreed meter value via telecounter. By this means it is ensured that always unique meter values are used for every time unit by all partners involved.
- G2. Data exchange between partners.**
- G2.1. Electronic Highway.** For the data exchange the “Electronic Highway” should be used
- G2.2. Detail of exchange data control area – control block.** It is recommended, that for each time unit the CONTROL AREA operator submits the single meter values of the tie – lines / virtual tie - lines to the CONTROL BLOCK operator
- G2.3. Detail of exchange data control block – co-ordination centre.** It is recommended, that for each time unit the CONTROL BLOCK operator submits the single meter values of the tie – lines / virtual tie - lines to the co-ordination centre
- G3. Definition of billing point.**

- G3.1.** The billing point should be located within the substation closer to the border between two partners.
- G3.2.** The measurement values used for load frequency control should be taken from the billing point by all partners.
- G4. Substitute meter values.** In case of S2.2 the following procedure is recommended:
  - G4.1.** If available, use the check meter values from the billing point substation.
  - G4.2.** If available, use the check meter values from the corresponding substation.
  - G4.3.** If available, use the integrated measurement values from the on-line observation (see subsection on-line observation).
  - G4.4.** Otherwise, the partners involved agree on the methodology to determine substitutes.
- G5. Quality of on-line observation and accounting.** It is recommended that every partner regularly compares the measurement values and the corresponding metering values concerning the (virtual) tie – line flows in order to detect early errors.
- G6. Unique definition of the data flow from the electricity meters to the accounting offices.** If each partner uses an own telecounter with data from both main and check meter one telecounter has to be declared as reference for the accounting. Alternatively each partner at the billing point is connected to both telecounters and gets the main meter data from one telecounter and the check meter data from the other one. Both variants proposed provide unique values for all partners.

## Procedures

- P1. Control area validation** (see S3.3, S6.2 ).
  - P1.1. Checking routines.**
    - P1.1.1.** The checking routines are performed by the CONTROL BLOCK operator itself in order to ensure the validity of the complete scheduling data set concerning the CONTROL BLOCK.
    - P1.1.2.** The CONTROL BLOCK operators validate if the data related to the internal borders of the underlying CONTROL AREAS sum up to zero. These routines are applied for the figures (*ES*, *ET* and *EVT*). If the checking routines fail, troubleshooting is applied.
  - P1.2. Troubleshooting.**
    - P1.2.1.** Identify whether the fault applies to the scheduled energy exchange *ES* or the physical energy exchange on tie-lines *ET* or virtual tie-lines *EVT*.
    - P1.2.2.** Identify the bilateral border (s) between CONTROL AREAS where the fault applies.
    - P1.2.3.** If the single (virtual) tie-line flows are available: identify the (virtual) single tie-line (s) between CONTROL AREAS where the fault applies
  - P1.3. Fault correction.** Ask the corresponding neighbouring CONTROL AREA operators to agree on a corrected common value.
- P2. Control area settlement** (see S3.4, S6.3).
  - P2.1. Checking routines.**
    - P2.1.1.** The checking routines are performed by the CONTROL BLOCK operator together with the underlying CONTROL AREAS in order to ensure the validity of the accounting results.

**P2.1.2.** The CONTROL BLOCK operators validate if the calculated account of unintentional deviations per price rating time bracket is identical with the internal calculation results of the CONTROL AREA operators. If the checking routines fail, troubleshooting is applied between CONTROL BLOCK operator and control area operator.

**P2.2. Troubleshooting.**

**P2.2.1.** Identify the faulty price rating time bracket (s) on the basis of the control area's account of unintentional deviations for every price – rating time bracket

**P2.2.2.** Identify the faulty time unit (s) on the basis of the CONTROL AREA'S account of unintentional deviations for every time unit

**P2.2.3.** Follow **STEP P1.2.1.**

**P2.3. Fault correction.** Ask the corresponding CONTROL AREA operator to corrected the value.

**P3. Control block validation** (see S4.3, S7.2).

**P3.1. Checking routines.**

**P3.1.1.** The checking routines are performed by the co-ordination centre itself in order to ensure the validity of the complete scheduling data set concerning the co-ordination centre.

**P3.1.2.** The co-ordination centre validates if the data related to the internal borders of the underlying CONTROL BLOCKS sum up to zero. These routines are applied for the figures (*ES*, *ET* and *EVT*). If the checking routines fail, troubleshooting is applied.

**P3.2. Troubleshooting**

**P3.2.1.** Identify whether the fault applies to the scheduled energy exchange *ES* or the physical energy exchange on tie-lines *ET* or virtual tie-lines *EVT*

**P3.2.2.** Identify the bilateral border (s) between CONTROL BLOCKS where the fault applies

**P3.2.3.** If the bilateral sums of (virtual) tie-line flows per CONTROL AREA border are available: identify the bilateral border (s) between CONTROL AREAS where the fault applies; otherwise **STEP P1.2.2**

**P3.2.4.** If the single (virtual) tie-line flows are available: identify the (virtual) single tie-line (s) between CONTROL AREAS where the fault applies; otherwise **STEP P1.2.3**

**P3.3. Fault correction.** Ask the corresponding neighbouring CONTROL BLOCK operators to agree on a corrected common value.

**P4. Control block settlement** (see S4.4, S7.3).

**P4.1. Checking routines.**

**P4.1.1.** The checking routines are performed by the co-ordination centre together with the underlying CONTROL BLOCKS in order to ensure the validity of the accounting results.

**P4.1.2.** The co-ordination centre validates if the calculated account of unintentional deviations per price rating time bracket is identical with the internal calculation results of the CONTROL BLOCK operators. If the checking routines fail, troubleshooting is applied between co-ordination centre and CONTROL BLOCK operator.

- P4.2. Troubleshooting.**
- P4.2.1.** Identify the faulty price rating time bracket (s) on the basis of THE CONTROL AREA'S account of unintentional deviations for every price – rating time bracket
- P4.2.2.** Identify the faulty time unit (s) on the basis of the CONTROL AREA'S account of unintentional deviations for every time unit
- P4.2.3.** Follow **STEP P3.2.1**
- P4.3. Fault correction.** Ask the corresponding CONTROL AREA operator to corrected the value.
- P5. Co-ordination centre validation** (see S5.1, S8.1).
- P5.1. Checking routines.**
- P5.1.1.** The checking routines are performed by the co-ordination centres in order to ensure the validity of the complete UCTE data set.
- P5.1.2.** The co-ordination centre validate if the data related to their external borders between the co-ordination centres sum up to zero. These routines are applied for the figures (*ES*, *ET* and *EVT*). If the checking routines fail, troubleshooting is applied.
- P5.2. Troubleshooting.** Follow **STEP P3.2.1**
- P5.3. Fault correction.** Ask the corresponding neighbouring CONTROL BLOCK operators to agree on a corrected common value.
- P6. Compensation of unintentional deviations.**
- P6.1. Recording period.** The unintentional deviations of a “recording period“ are accumulated to an account.
- P6.2. Compensation of unintentional deviations.** The compensation of unintentional deviations is performed “in kind“ – as an import / export of the corresponding amount of energy, that was accumulated in the recording period. When the value of the unintentional deviation in a recording period of a CONTROL AREA is higher than **XXX** MWh, the compensation will be treated separately by the co-ordination centres.
- P6.3. Compensation period.** The compensation is carried out within the “compensation period“
- P6.4. Tariff periods.** The value of energy is depending on the time. Therefore fixed tariff periods are used. Within these tariff periods the energy is regarded as of the same weight. The accumulation of unintentional deviations within the recording period is performed separately for each tariff period. In addition, the tariff periods depend on two different tariff seasons (winter, summer). Up to four tariff periods per tariff season are used.
- P6.5. Compensation Program.** The compensation of unintentional deviations is performed by exporting to / importing from the interconnected system during the compensation period by means of schedules of constant power within the same tariff periods as when they occurred (“compensation program” *COMP*). The sum of all the COMPENSATION PROGRAMS for each time unit of a synchronous zone must be equal to zero.
- P7. Control Deviation.** Calculation of control deviation:  $CD = UD - COMP$  .

## Measures

- M1. Data exchange.**

**M1.1.** If the CONTROL AREA operator (s) does (do) not submit the data to the CONTROL BLOCK operator in due time (see S3.1), the CONTROL BLOCK operator estimates substitute values.

**M1.2.** If the CONTROL BLOCK operator (s) does (do) not submit the data to the co-ordination centre in due time (see S4.1, S7.1), the co-ordination centre estimates substitute values.

**M2. Data validation.**

**M2.1.** If the CONTROL BLOCK operator is not in the position to validate the accounting data with the CONTROL AREAS concerned in due time (see S6.2 ) the CONTROL BLOCK operator decides which CONTROL AREA data are relevant for the accounting.

**M2.2.** If the co-ordination centre is not in the position to validate the accounting data with the CONTROL BLOCKS concerned in due time (see S7.2) the co-ordination centre decides which CONTROL BLOCK data are relevant for the accounting.

**M2.3.** If the co-ordination centres are not in the position to validate the accounting data vice - versa in due time (see S8.1) the co-ordination centres agree which co-ordination centre data are relevant for the accounting.

**M3. Settlement.**

**M3.1.** If the CONTROL AREA operator is not in the position to confirm the account of unintentional deviations and the resulting compensation program in due time (see S6.3) the result of the CONTROL BLOCK operator is valid.

**M3.2.** If the CONTROL BLOCK operator is not in the position to confirm the account of unintentional deviations and the resulting compensation program in due time (see S7.3) the result of the co-ordination centre is valid.